

# Produmex WMS Installation Guide

## 1. Introduction

This document describes the Produmex Suite Installer tool, which allows for complete installation and configuration of Produmex WMS with the following components:

- Produmex Tools
- Produmex License server
- Produmex Mobile Client (Fat Client with scanner or touchscreen modes)
- Produmex SB1 Notification Listener: This is a tool (service) to perform certain actions that are triggered by adding, updating and deleting data in SAP Business One.
- Produmex ScaleComm: This is a service that can be used to integrate with scales.

The document also applies to the installation of Produmex WMS on a Cloud Environment managed by Cloud Control Center. If there is a specific step, it is indicated in the document.

Note: The Produmex WMS add-on is registered and installed like a regular SAP add-on, and it uses an add-on loader to upload the files to the database.

## 2. Prerequisites

The prerequisites for the installation of Produmex WMS for SAP Business One are the following:

- Windows Server 2008 (minimum)
- Installation of MS SQL Server or SAP HANA
- Installation of SAP Business One 9.2 Patch level 5 or later
  - Note: From version 18.3 Produmex WMS supports 9.2 Patch level 5 and later for SAP Business One. (This SAP version introduced a new licensing model to which Produmex WMS has been adjusted because of the Boyum IT licensing solutions.)
- Installation of .NET 4.6.2 framework (on every machine running Produmex WMS)
  - Note: After installing the .NET 4.6.2, the computer must be restarted before any other install or upgrade process.
- Installation of SQL Native Client and SQL ODBC driver for the proper SQL Server version (on every machine running Produmex WMS)
  - For MSSQL 2016 and later, use the following links: [native client](#) and [ODBC driver](#)
- Installation of HANA Client for the proper HANA version (on every machine running Produmex WMS)
- Administrative rights
- Windows remote desktop licenses for Mobile Client terminals

Notes:

- Some of the prerequisites are available [here](#).
- If you have any antivirus software installed, add the .exe of the Produmex Suite Installer as an exception.

## 2.1. HANA database privileges

When using a HANA user other than SYSTEM, grant additional privileges to the user in addition to the standard privileges recommended by SAP.

You can set the proper privileges by executing the following SQL queries. Make sure you replace the user, the schemas and the password before executing the queries. In the examples below, the user is DBUSER, the company schema is TEST\_WMS and the Produmex schema is PMX\_TEST\_WMS.

Creating a user:

```
CREATE USER DBUSER PASSWORD B1UserPwd NO FORCE_FIRST_PASSWORD_CHANGE;
```

SAP recommendations:

```
ALTER USER DBUSER DISABLE PASSWORD LIFETIME;  
GRANT AFLPM_CREATOR_ERASER_EXECUTE TO DBUSER WITH ADMIN OPTION;  
GRANT CONTENT_ADMIN TO DBUSER;  
GRANT SAP_INTERNAL_HANA_SUPPORT TO DBUSER;  
GRANT CATALOG READ, CREATE SCHEMA, ROLE ADMIN, USER ADMIN TO DBUSER WITH  
ADMIN OPTION;  
GRANT EXPORT, IMPORT, INIFILE ADMIN, LOG ADMIN TO DBUSER;  
GRANT CREATE ANY, SELECT ON SCHEMA SYSTEM TO DBUSER WITH GRANT OPTION;  
GRANT SELECT, EXECUTE, DELETE ON SCHEMA _SYS_REPO TO DBUSER WITH GRANT  
OPTION;  
GRANT SELECT, INSERT, DELETE, UPDATE, EXECUTE, CREATE ANY, DROP ON SCHEMA  
SBOCOMMON TO DBUSER WITH GRANT OPTION;  
GRANT SELECT, INSERT, DELETE, UPDATE, EXECUTE ON SCHEMA COMMON TO DBUSER  
WITH GRANT OPTION;
```

Additional privileges required for Produmex WMS:

```
GRANT SELECT, INSERT, DELETE, UPDATE, EXECUTE, CREATE ANY, DROP, ALTER,  
INDEX, TRIGGER, REFERENCES ON SCHEMA TEST_WMS TO DBUSER WITH GRANT OPTION;  
CREATE SCHEMA PMX_TEST_WMS; -- skip this line if the PMX schema already  
exists  
GRANT SELECT, INSERT, DELETE, UPDATE, EXECUTE, CREATE ANY, DROP, ALTER,  
INDEX, TRIGGER, REFERENCES ON SCHEMA PMX_TEST_WMS TO DBUSER WITH GRANT  
OPTION;
```

## 3. Performing a Fresh Installation

The following sections describe how to perform a fresh installation of Produmex WMS.

## 3.1. Set up the Produmex Suite Installer

1. Download the correct version of the Produmex Installation Zip file to your computer from [here](#).

- 32 bit: Produmex\_WMS\_x\_x\_x\_x.zip
- 64 bit: Produmex\_WMS\_x\_x\_x\_x.x64.zip

Note: It is not possible to mix the two versions in one environment. Make sure that you either use the 32 bit or the 64 bit version of the software per environment.

2. Extract the file to a directory (preferably with the same name as the version number, e.g. {driveletter}:\Produmex\_WMS\_523).

Note: It is not recommended to extract the file within the {driveletter}:\Program Files directory as this might cause interference with installed components later.

Recommended step: Keep this directory on a shared folder accessible from all servers. That way you can use the same configuration when you install and upgrade multiple components on separate systems (e.g.: an SAP server and a terminal server).

3. Locate the directory of the Produmex Suite Installer (e.g. Produmex\_WMS\_XXX.x64\9.3\ProdumexSuiteInstaller) and execute the .exe. Make sure that you have administrator privileges when executing this application.

4. After launching the .exe file, the End User Licence Agreement window opens. Produmex WMS can only be installed if the License Agreement is accepted.



The system proceeds to the Produmex Suite Installer and you can start the configuration of the General tab.

### 3.1.1. General tab

This section describes the initial setup of the Produmex Suite Installer.

This configuration can be saved and reused for upgrades and it can also be modified (see section [5. Adding a New Database to an Existing Installation](#)).

#### 3.1.1.1. System and server related fields



##### 1. Computer name

Displays the name of the server we are currently running the Produmex Suite Installer on. It is recommended to start the installation on the SAP server.

##### 2. SAP license server

Provide the domain name of the server where the SAP license service is installed. This name should be exactly the same as the one configured in SLD and should include the port number of the SAP license server. On MSSQL, the port number is typically 30000, on HANA the port number is typically 40000.

### 3. DB server address

Provide the domain name of the server where the database is installed.

On HANA environment the port number of the database server should also be included.

- Single-Database: The default port number is 30015.
- Multi-Database: The DATABASENAME parameter must be used: DBA@< >. The default port is 30013. Example:

Choose Company

User ID  Password  [Change User](#)

☐ Log on with Current Domain User

Current Server: **HANADB** Database: **NDB@SOL-HANA-03:30013**

Database

Companies on Current Server

Company Name	Database Name	Localization	Version

[Refresh](#)

Find By:  
☒ Company Name  
☐ Database Name

[OK](#) [Cancel](#)

### 4. DB server type

Select the type of the database management system installed on the server.

### 5. DB user name

Provide the database username that has database owner rights on the SBO company database(s).

If you install Produmex WMS on Cloud Environment managed by Cloud Control Center, make sure that the necessary extra database authorizations are granted for the tenant's database credentials.



### 6. DB password

Provide the database user password.

### 7. DB culture

Provide the database culture.

#### 3.1.1.2. Database and company related fields



## 1. Environment

Select Production or Test environment.

This field corresponds to the Target Environment selected on top of the Produmex SuiteInstaller. This feature can be used to install two different versions of the Produmex Suite Installer on one server. One version can be the test version, and the other version can be the production version. This field informs the system about the database/company that will be part of the production environment and about the database/company that will be used as a test database.

## 2. Alias

Provide the Alias for the "ConnectionString". This is the name you will use during installation and configuration.

Note: It is recommended to use the database name as your alias.

## 3. Company database

Provide the name of the company database.

## 4. SAP user name

Provide the SAP user name. Typically the manager user is used here.

If you install Produmex WMS on Cloud Environment managed by Cloud Control Center, provide the SAP user name in the format of domain\Windows username.

## 5. SAP password

Provide the SAP user password.

If you install Produmex WMS on Cloud Environment managed by Cloud Control Center, provide the Windows password of the user.

Note: Make sure that you fill in the Alias, the Company database, the SAP user name and the SAP password fields, otherwise the system displays an error message when installing the Produmex components.

## Testing connection

There are two ...test... buttons for each database/company.

- The first button tests the SBO connection through DI-API. Click the button to start the test and once the test is done, click OK.
- The second button tests the direct SQL connection through SQL Native Client. Click the button to start the test and once the test is done, click OK.



Click the Save button in the bottom right corner.

Note: When saving the configuration, the system creates a .config file that can be used later for potential upgrades.

### 3.1.2. Create a new tab per server

If you run the Produmex Suite Installer from a shared folder that is accessible from different servers, it is recommended to create a new tab for each server. Typically, there are at least 2 servers.

- SAP server with the Produmex Tools, Fat Client & License Service (and other optional services) installed
- Terminal server with the Produmex Fat Client installed

Note: The Produmex license server should be installed on the same server as the SAP license server in MS SQL environment (not in HANA environment).

1. Add a new tab (for the SAP server in this example) by clicking on the + icon next to the General tab.

2. Provide the name of the SAP server and click OK.



### 3.1.3. System assignment

On the new tab click *Assign to this Computer* and the name of the server appears on the *System Assignment* field.

The Produmex Suite Installer is informed that this is the server you are currently working on. This is saved and next time the tool will open on the correct tab, depending on the server you are opening it on.



## 3.2. Install components

On the Produmex Suite Installer screen the *Available Version* column shows the Produmex WMS version you are going to install. To start the installation, proceed as follows.

1. Check in the *Has Custom Files* checkbox on the bottom right corner if there are custom files to be installed, such as customer specific workflow scripts.

If the checkbox is tagged, during the installation process you must locate the directory where the custom files are unzipped to. (Example of directory name: `Project_OEC_1_0_0_327.`)

**Note:** Do not forget to click the save button on the Produmex Suite Installer before the DB Upgrade.



2. In the *Required* column select the necessary components to be installed on the server.

Typically, an SAP server has the Produmex Tools, the License Server and the Fat Client installed. If the Produmex SB1 Notification Listener or a Scalecomm service is needed, you can install them on the SAP server.

Note: It is not possible to have more than one Produmex License Server and Scalecomm service version installed on a server.

3. If Produmex SB1 Notification Listener needs to be installed, after selecting the checkbox in the *Required* column, select the instance alias in the *Instance Alias* column.



4. Click **Install All** and the system installs all the components selected in the *Required* column.



5. On the *Select Connection for Licensing* screen select the appropriate connection for licensing from the drop-down menu and click **OK**.

Note: In the drop-down menu you will see all your connections that you can use for licensing. If you have multiple installation numbers, make sure that you select the connection from where the appropriate installation number can be retrieved.



6. The Produmex Suite Installer displays your installation number. If the installation number is correct, click **OK**.

Note: In case there is a change in your licensing in the future and you need to change the connection, click the **Update Licensing Data** button of the Produmex Suite Installer, choose the appropriate connection and restart the service without reinstalling it.



7. The installation of the selected components starts. When the installation is successfully finished, click **OK**.



8. If you have checked the *Has Custom Files* option in step 1, you must locate the directory now. Click **OK** on the Produmex Installer screen, locate the directory where the files can be found and click **OK**.



The installation of the components is finished. Continue with the section [3.3. Configure components](#).

Note: The **Update Connection String** button is used when you add a new database to an existing

installation, for more information click [here](#).

### 3.3. Configure components

This section describes the configuration of the Produmex Tools, the Produmex License Server and the Produmex SB1 Notification Listener.

The configuration of each component can be started by clicking the Config button on the corresponding line.



#### 3.3.1. Configure the Produmex Tools

1. Click the Config button of the Produmex Tools.
2. Select an instance alias which will connect to the company database and click Run to start the Produmex Database Upgrade tool.



3. If necessary, change the connection by using the *Connection* drop-down list on the top of the screen. The drop-down list is filled with all the connection strings found in the configuration file of the Produmex Database Upgrade tool.



4. The tool has three options, which are checked by default:

- (1) Upgrade database
- (2) Update localizations
- (3) Update add-on files (Create User Defined Fields)

Note: When updating/inserting/deleting database in a slower environment the installation could take too long. In some cases it lead to timeout error (41088). In order to solve this issue please follow the process in this article:

[Error 41088 during fresh installation: When updating/inserting/deleting a business object then a transaction must be running](#)

#### (1) Upgrade Database:

The tool upgrades your database to the required Produmex version.

- **Create User Defined Fields:**

The tool creates the necessary User Defined Tables. If the checkbox is not selected, the necessary UDFs need to be created manually in SBO.

- **Integration with Produmex Manufacturing:**



Select the checkbox if you want to use the integrated Produmex Manufacturing solution (see section: [Working with Produmex Manufacturing and Produmex WMS](#)).

- **Force to re-install PMX\_SP\_TransactionNotification:** The checkbox is relevant in case of future version upgrades:
  - During a database upgrade, stored procedures are installed or updated as well, but the PMX\_SP\_TransactionNotification stored procedure is only added in case of a fresh installation or when upgrading from a version lower than 6.3. To update the PMX\_SP\_TransactionNotification during a version upgrade, select the Force to re-install PMX\_SP\_TransactionNotification checkbox.
  - Select the checkbox to add the stored procedure if it is missing.
  - If this stored procedure has been customized, these customizations will be lost in case of a version upgrade.

(2) **Update Localizations:**

This step updates localizations. It updates any translations to the required Produmex WMS version.

(3) **Update Add-on Files:**

This step uploads the Produmex suite add-on files necessary to run Produmex WMS.

Note: Before clicking Start, backup the stored procedure. If for some reason the stored procedure has to be re-installed, install it manually from the backup.

5. Click Start and the tool displays the process.



6. On the Add-on Uploader Form select all row(s) corresponding to the installation and click Upload or if all the rows must be selected, click Select All and then click Upload.

When the upload is finished, click OK on the form and the screen is automatically closed.

7. When the upgrade process is finished, close the Produmex Database Upgrade and the Produmex Tools screens by clicking x in the top-right corner.



### 3.3.2. Configure the Produmex License Server

From product version 18.4 the license module uses the Boyum IT portal and the old license file cannot be used anymore. When upgrading from a version older than 18.4 to version 18.4 or higher, make sure that you have a license on the [Boyum IT Portal](#).

#### 3.3.2.1. Running the Produmex License Configurator

1. On the Produmex Suite Installer screen click on the Config button of the Produmex License Server. The Produmex License service uses port 9997 to communicate with the WMS add-on. Port 9997 should be open on the Firewall.
2. Click on the Run button on the form that opens to start the license configurator.

Note: In the future the Produmex License Configurator can also be started by running the Produmex.Sbo.Logex.Licensing.Configurator.exe file. Make sure that the License Configurator is started in Administrator mode. (Example of file location: C:\Program Files (x86)\Produmex\Produmex License Server)

#### 3.3.2.2. The license file - online and offline solutions

The License Configurator offers two different options of licensing, **automatic** and **manual**:

**Automatic licensing is an online licensing option.** With active Internet connection your license is automatically downloaded from the Boyum IT portal.

**Manual licensing is an alternative offline solution.** If you have a problem with automatic licensing, for example you do not have active internet connection, manual licensing makes it possible to add your license data manually. In this case you can obtain the data from the offline license generator of the Boyum IT Portal.

It is also possible to switch between the two options later.

- If you switch from automatic to manual licensing in the future, the current license remains in the system until you add a new license file manually.
- If you switch from manual to automatic licensing in the future, the current license remains in the system until the new license file is downloaded from the portal. Once it is downloaded, the system uses your online license instead of the previously added manual one.

The next sections describe the steps of the automatic and the manual licensing process in details.

#### 3.3.2.2.1. Automatic licensing

When you open the License Configurator, the Automatic license type is checked by default and the License Configurator tries to download the licensing data from the Boyum IT portal automatically.

If you have an active internet connection and the license can be downloaded, you will see the following message:



1. Click OK.
2. Click Save Configuration, then click OK.
3. Click Restart Service, then click OK.

Note: If you lose internet connection in the future, the License Configurator will use the online license it has downloaded from the Boyum Portal last time.

If you do not need manual licensing, continue with section [3.3.2.3 The License Configurator window](#).

#### 3.3.2.2.2. Manual licensing

If you are not automatically connected to the license system or you have no active internet connection, you will see the following error message:



1. Click OK and select the Manual option.
2. The License Configurator sends the automatic message that your offline license file cannot be retrieved. Click OK.



3. Visit the [offline license generator of Boyum IT Portal](#) to get the license data.
4. On the *Get Manual License* screen proceed as follows:
  1. Fill in the *Installation Number* field.
  2. Select the *Produmex WMS Professional – User license* in the drop-down Product list.

### 3. Click Submit.

Note: For more information on the installation number click [here](#).



The portal displays the license data as follows:



5. Copy all the data to a new document of a text editor and save it to your local drive as a txt file. This will be your license file.

6. On the License Configurator screen click on the Choose new license file button and browse for the license file.

7. The License Configuration informs you that your manual license file has been loaded. Click OK.

8. Click on the Save configuration button to save the configuration and then click OK.

9. Restart the service by clicking on the Restart Service button. You are informed that the license server has started. Click OK.

#### 3.3.2.3. The License Configurator window



In the Licenses section every license from the license file is listed.

License parameters:

- Type: The type of the license.
- Valid Till: The expiration date of the license.
- Count: The number of licenses.
- Use Assigned Name (Y/N): Defines whether a user must be assigned to the license or not. If the 'UseAssignedName' option is active for a license, you have to link user(s) to the license.

Under *Assigned Names* every company that is included in the configuration file of the license manager is listed. (*Produmex.Sbo.Logex.Licensing.Configurator.exe*)

- Connection name
- Company

Licenses that are currently in use are listed on the 'Active licenses' tab.

- License type: The license type.
- Assigned name: The SBO user/ thin client that is using the license.
- User name: The Windows user that is using the license.
- User domain: The server/PC where the license is being used.

- Process ID: The Process ID that is using the license.

#### 3.3.2.4. License types

Click [here](#) and consult with the article on Produmex WMS licensing for more information.

### 1. Produmex WMS Professional license (Add-On)

It is required to run the add-on in SAP Business One. On the License Configurator screen this is called *AddOnUser*.

Add-on licenses must be assigned to specific user(s). The number of assigned users is not limited. Only assigned users are entitled to a Produmex License.

The number of the available licenses defines the number of users that can use the Produmex WMS add-on concurrently. If there are more users than the number of licenses, the principle of “first come, first served” is applied.

Each time a user starts the add-on, the system checks whether the user is an assigned user and whether there is a free license that can be allocated to the user:

- If the user is not an assigned user, no license is allocated to the user.
- If the user is an assigned user and there is a free license, the system allocates it to the user.
- If the user is an assigned user and there is no free license, no license is allocated to the user. In this case the Produmex WMS add-on can be started, but when the user tries to open a function that requires a license, an error message is displayed.

After the user logs out, the system deallocates the license from the user.

Note: One user can only be assigned once even if multiple databases contain the same user. If a given user is logged in to one database, the user can only log in to another database if there is a free license. If a user is logged in to two databases, the user uses two licenses.

### 2. Produmex WMS Terminal license (Device Client)

It is required to run flows on the Fat Client (a scanner or a touchscreen). On the License Configurator screen this is called *DeviceUser*.

The terminal licenses are unassigned licenses. If the license must be assigned, it can be assigned to every Fat Client defined in the Organizational Structure of the company. The number of assigned clients is not limited.

Device clients have concurrent licensing, that is, licenses do not have to be assigned to a certain client. Instead the system allows as many concurrent connections as the total number of available licenses.

Each time logging in on a client, the system checks whether there is a free license slot that can be allocated to the client.

- If there is a free license, the system allocates it to the client.
- If there is no free license, an [error message](#) is displayed.

After the logout, the system deallocates the license from the client.

### 3. Produmex 3PL Module

It is required to use the [3PL invoicing](#) functionality. On the License Configurator screen this is called *Mod\_3PL*.

This license is an *unassigned* license. There are 99999 licenses available and when the *Mod\_3PL* license is active, every add-on user has access to the 3PL invoicing functionality.

### 4. Produmex EDI Interface

It is required to use the additional functionality for [EDI messages](#). On the License Configurator screen this is called *Mod\_EDI*.

This license is an *unassigned* license. There are 99999 licenses available and when the *Mod\_EDI* license is active, every add-on user has access to the EDI functionality.

#### 3.3.2.5. License assignment

To assign users to licenses, proceed as follows.



1. Select the company on the top of the *Assigned Names* section.
2. Select the necessary license type from the *Show available names for type* drop-down menu. Under *Available* every user available from the selected company is listed.
3. Select the name and click on the left arrow icon to assign it to the selected license type.  
If different companies have different users, they all have to be configured on the same Produmex license server. You must get the list of users for each connection string and assign them all together into a single list of assigned users.

Note: The sequence of the assigned users has no impact on license allocation.

4. Click **Save Configurations** and close the License Configurator screens.

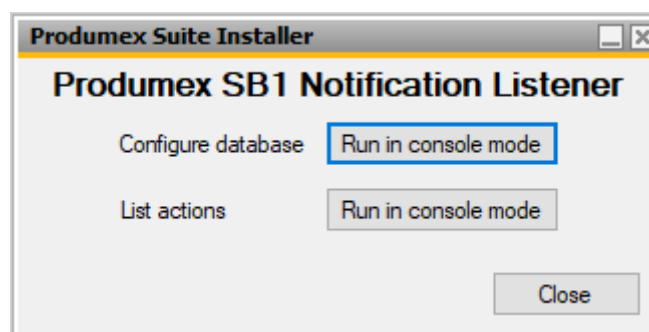
The [next section](#) describes the configuration steps of Produmex SB1 Notification Listener. If you do not need this component, click **Save** on the Produmex Suite Installer screen and close the screen. Continue with section [3.4. Adaptation of Stored Procedures](#).

#### 3.3.3. Configure the Produmex SB1 Notification Listener

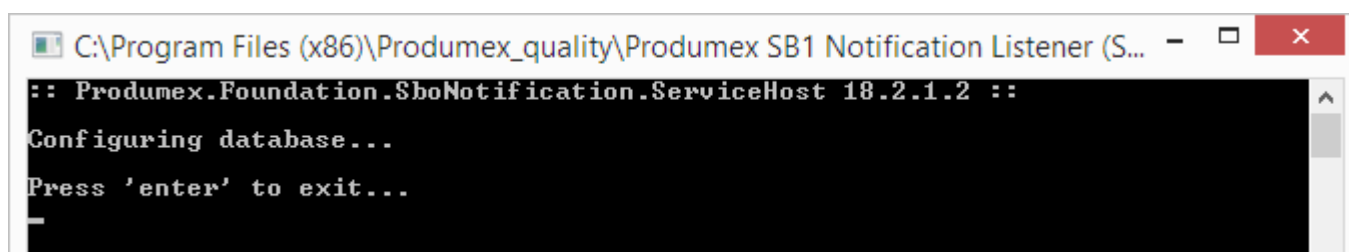
Note: Make sure you do not perform the configuration on an environment with active users.

In order to activate the SB1 Notification listener, you need to enable the Service Broker as follows.

1. On the Produmex Suite Installer screen click the Config button of the Produmex SB1 Notification Listener.
2. Click the Run in console mode button of the Configuration Database option.



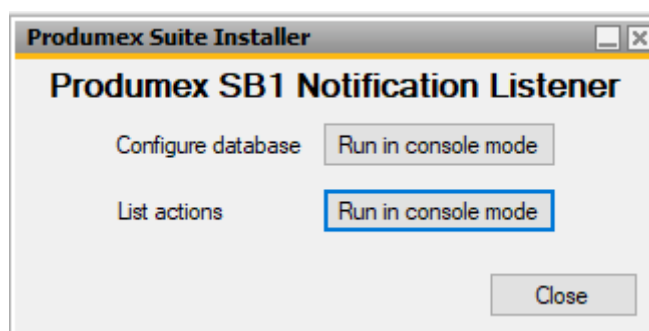
It shows the following console.



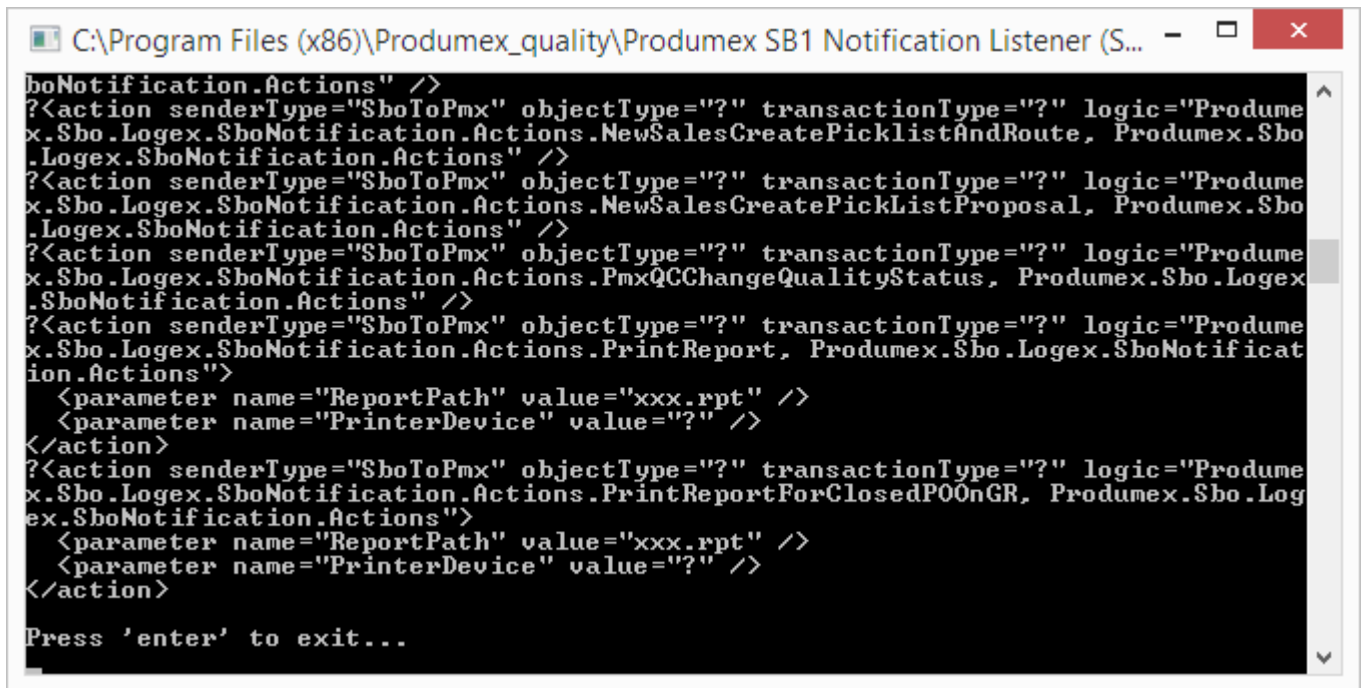
3. Press ENTER to finish the database configuration.

Now list the actions that the Produmex SB1 Notification Listener needs to listen to by proceeding as follows.

4. Click the Run in console mode of the List Actions option.



The tool adds the actions to the config-file located in the installation folder of the Produmex SB1 Notification Listener.



```

C:\Program Files (x86)\Produex_quality\Produex SB1 Notification Listener (S...
boNotification.Actions" />
?<action senderType="SboToPmx" objectType="?" transactionType="?" logic="Produex.Sbo.Logex.SboNotification.Actions.NewSalesCreatePicklistAndRoute, Produex.Sbo.Logex.SboNotification.Actions" />
?<action senderType="SboToPmx" objectType="?" transactionType="?" logic="Produex.Sbo.Logex.SboNotification.Actions.NewSalesCreatePicklistProposal, Produex.Sbo.Logex.SboNotification.Actions" />
?<action senderType="SboToPmx" objectType="?" transactionType="?" logic="Produex.Sbo.Logex.SboNotification.Actions.PmxQCChangeQualityStatus, Produex.Sbo.Logex.SboNotification.Actions" />
?<action senderType="SboToPmx" objectType="?" transactionType="?" logic="Produex.Sbo.Logex.SboNotification.Actions.PrintReport, Produex.Sbo.Logex.SboNotification.Actions">
  <parameter name="ReportPath" value="xxx.rpt" />
  <parameter name="PrinterDevice" value="?" />
</action>
?<action senderType="SboToPmx" objectType="?" transactionType="?" logic="Produex.Sbo.Logex.SboNotification.Actions.PrintReportForClosedPOOnGR, Produex.Sbo.Logex.SboNotification.Actions">
  <parameter name="ReportPath" value="xxx.rpt" />
  <parameter name="PrinterDevice" value="?" />
</action>
Press 'enter' to exit...

```

5. Press ENTER to exit and close the screen of the options.

6. Click Save on the Produex Suite Installer screen and close it.

Continue with section [3.4. Adaptation of stored procedures](#).

## 3.4. Adaptation of stored procedures

### 3.4.1. Enable the standard PMX stored procedure

The following sections describe the process of enabling the standard PMX stored procedure with Microsoft SQL (section [3.4.1.1](#)) and SAP HANA (section [3.4.1.2](#)).

#### 3.4.1.1. With Microsoft SQL Server

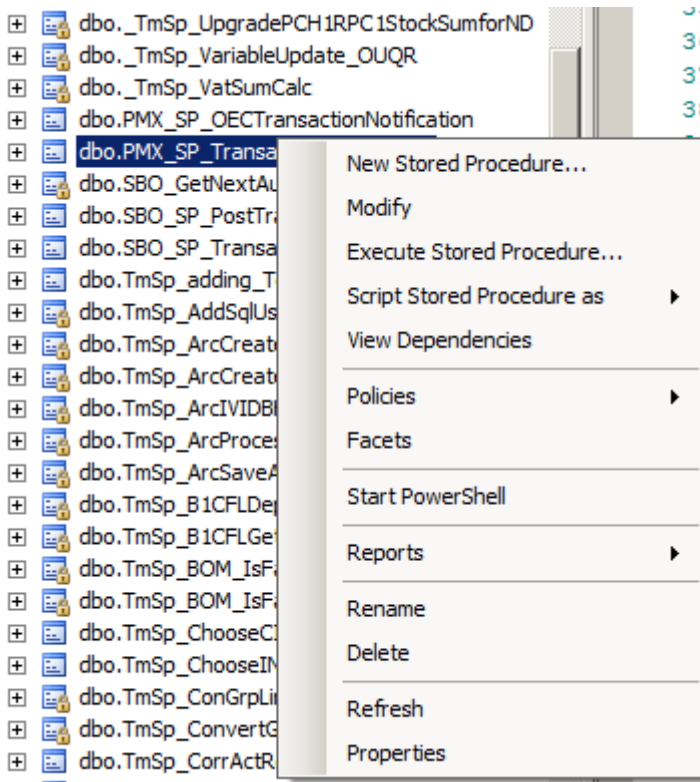
After the configuration is done, you need to enable the (custom) stored procedures in the stored procedure of SAP named "SBO\_TransactionNotification".

When applying the Produex Add-on the first time to a database, you also need to adapt the stored procedure "SBO\_SP\_TransactionNotification".

1. Open SQL Server Management Studio and connect to your database server.
2. Expand the Databases folder and locate the database to which you want to apply the Produex Add-on.
3. Open this database directory and open the "Programmability\Stored Procedures" subdirectory.



4. Locate the “dbo.PMX\_SP\_TransactionNotification” stored procedure, right-click it and select “Modify”.



5. Locate the “Produmex Logex Addon Code” at the end of this stored procedure (see illustration below)

```

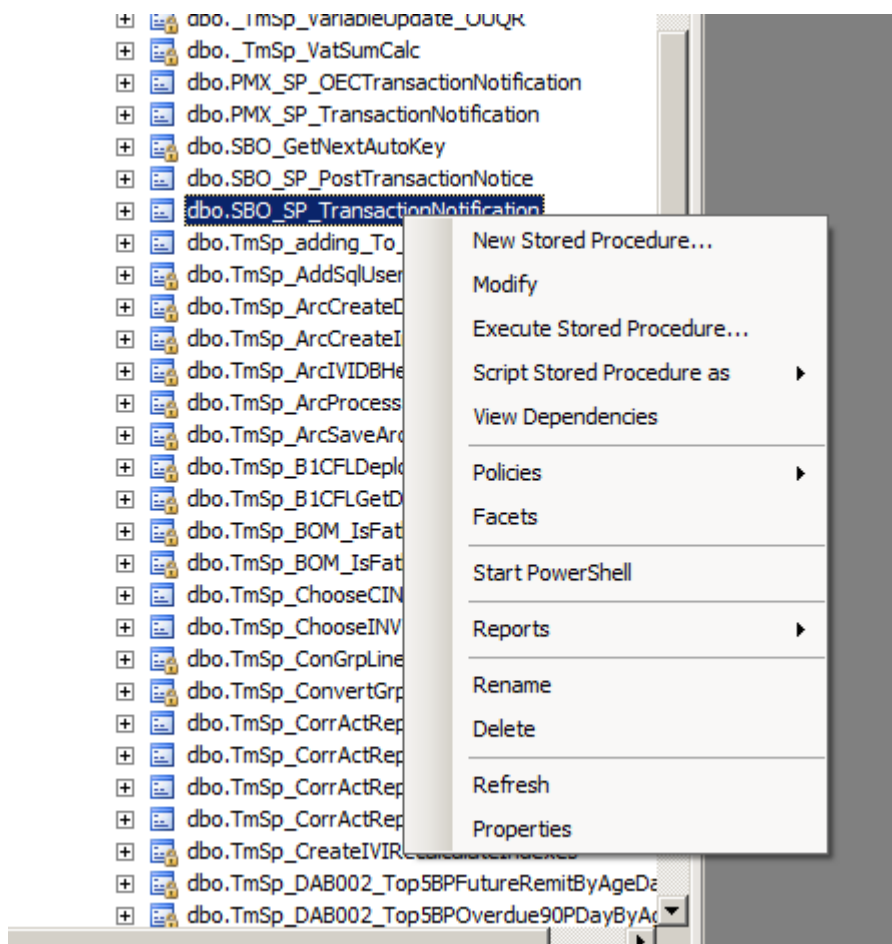
8113
8114 ----Following code must be added to the stored procedure SBO_SP_TransactionNotification
8115 ----to execute the PMX stored procedure:
8116
8117 -----
8118 ----Start executing Produmex Logex Addon code
8119 -----
8120 --BEGIN TRY
8121 -- EXEC [dbo].[PMX_SP_TransactionNotification]
8122 -- @object_type,
8123 -- @transaction_type,
8124 -- @num_of_cols_in_key,
8125 -- @list_of_key_cols_tab_del,
8126 -- @list_of_cols_val_tab_del,
8127 -- @error = @error OUTPUT,
8128 -- @error_message = @error_message OUTPUT
8129 --END TRY
8130 --BEGIN CATCH
8131 -- SET @error = ERROR_NUMBER()
8132 -- SET @error_message = ERROR_MESSAGE()
8133 -- DECLARE @msg as NVARCHAR(255)
8134 -- SET @msg = SUBSTRING('PMX_SP: sql error ' + CAST(ERROR_NUMBER() AS NVARCHAR) + ' : ' + ERROR_MESSAGE()
8135 -- + ISNULL(' line ' + CAST(ERROR_LINE() AS NVARCHAR), '') + ISNULL(' in ' + ERROR_PROCEDURE(), ''),1,255)
8136 -- EXEC xp_logevent 999999, @msg, ERROR
8137 --END CATCH;
8138 -----
8139 ----End executing Produmex Logex Addon code
8140 -----

```

6. Copy the “Produmex Logex Addon Code”.

Now paste the code into the “dbo.SBO\_SP\_TransactionNotification” stored procedure as follows.

7. Locate the “dbo.SBO\_SP\_TransactionNotification” stored procedure, right-click it and select Modify.



8. Paste the “Produmex Logex Addon Code” at the end of it. With a new installation you will see a marked area like “– ADD YOUR CODE HERE”.



9. Uncomment the SP by clicking on the Uncomment button in SQL Management Studio.

```

19
20 -- Return values
21 declare @error int -- Result (0 for no error)
22 declare @error_message nvarchar (200) -- Error string to be displayed
23 select @error = 0
24 select @error_message = N'Ok'
25
26 -----
27
28
29 -----
30 --Start executing Produmex Logex Addon code
31 -----
32 BEGIN TRY
33 EXEC [dbo].[PMX_SP_TransactionNotification]
34 @object_type,
35 @transaction_type,
36 @num_of_cols_in_key,
37 @list_of_key_cols_tab_del,
38 @list_of_cols_val_tab_del,
39 @error = @error OUTPUT,
40 @error_message = @error_message OUTPUT
41 END TRY
42 BEGIN CATCH
43 SET @error = ERROR_NUMBER()
44 SET @error_message = ERROR_MESSAGE()
45 DECLARE @msg as NVARCHAR(255)
46 SET @msg = SUBSTRING('PMX_SP: sql error ' + CAST(ERROR_NUMBER() AS NVARCHAR) + ' : ' + ERROR_MESSAGE()
47 + ISNULL( ' line ' + CAST(ERROR_LINE() AS NVARCHAR), '' ) + ISNULL( ' in ' + ERROR_PROCEDURE(), '' ),1,255)
48 EXEC xp_logevent 999999, @msg, ERROR
49 END CATCH;
50 -----
51 --End executing Produmex Logex Addon code
52 -----
53
54
55 -- Select the return values
56 select @error, @error_message
57
58 end
59

```

10. Execute the SBO\_SP\_TransactionNotification stored procedure.

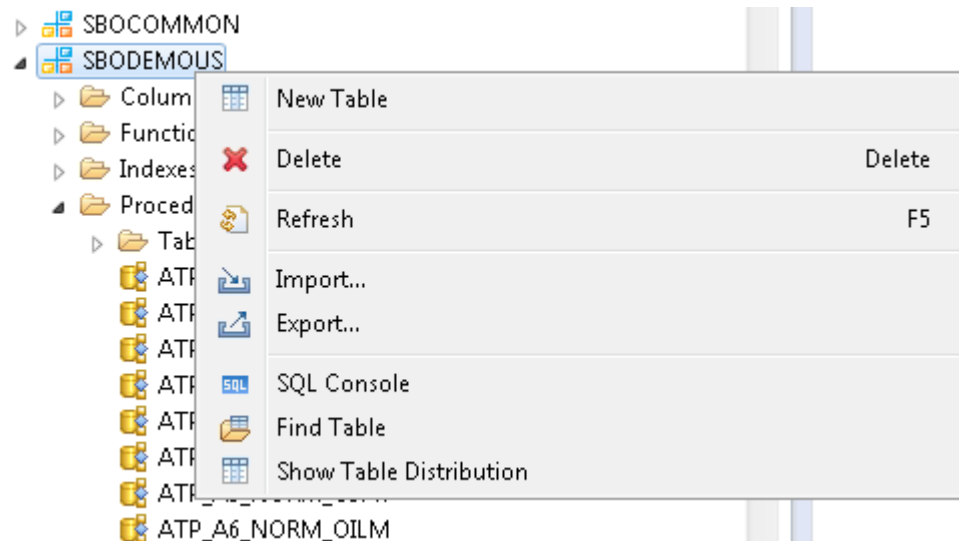
Continue with section [3.4.2. Enable a custom stored procedure.](#)

#### 3.4.1.2. With SAP HANA

After the configuration is done you need to enable the (custom) stored procedures in the stored procedure of SAP named “SBO\_TRANSACTIONNOTIFICATION”.

When applying the Produmex Add-on the first time to a database you will also need to adapt the stored procedure “SBO\_SP\_TRANSACTIONNOTIFICATION”

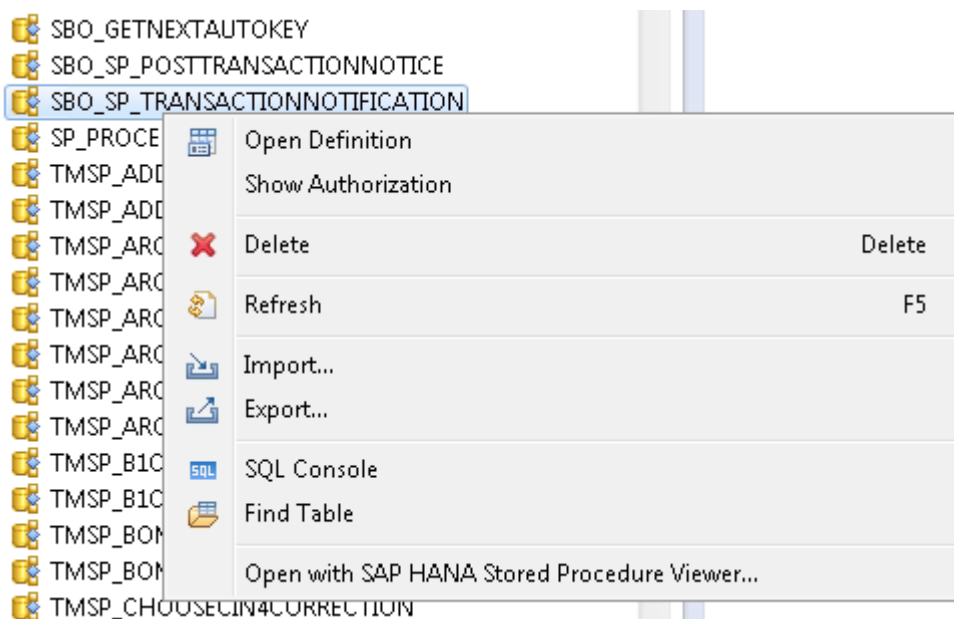
1. Open the SAP HANA Studio and connect to your SAP HANA server.
2. Expand the “Catalog” folder and locate the schema to which you want to apply the Produmex Add-on.
3. Right-click on this schema and select “SQL Console” to open a new SQL console.



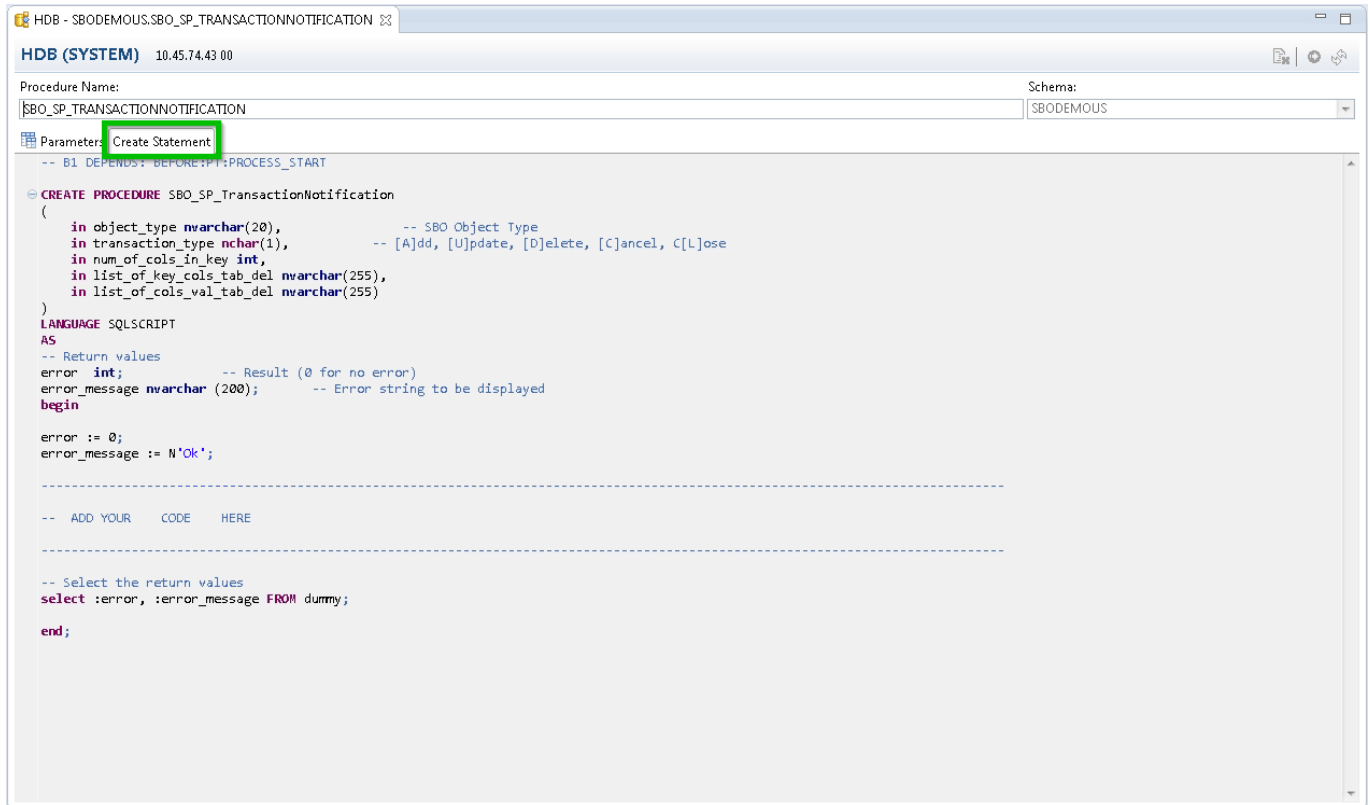
Keep this SQL console open during the whole process.

4. Expand the schema directory and open the “Procedures” subdirectory.

5. Locate the “SBO\_SP\_TRANSACTIONNOTIFICATION” stored procedure, right-click it and select “Open Definition”.

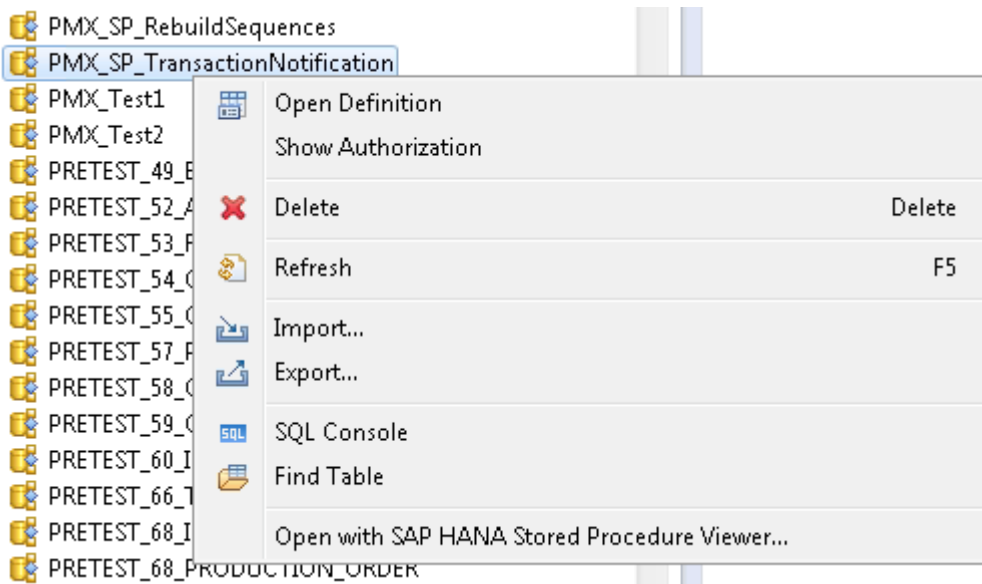


6. Open its content by opening the *Create Statement* tab:



7. Copy the content into the SQL console.

8. Locate the “PMX\_SP\_TransactionNotification” stored procedure, right-click it and select “Open Definition”.



9. Open its content by opening the *Create Statement* tab, and locate the “Produmex Logex Addon Code” at the end of this stored procedure (see illustration below).



10. Copy the “Produmex Logex Addon Code”.

11. This code should now be pasted into the SQL console, where you have already pasted the content of the “SBO\_SP\_TRANSACTIONNOTIFICATION” stored procedure. Paste the “Produmex Logex Addon

Code” at the end of it. With a new installation you will see a marked area like “– ADD YOUR CODE HERE”.

12. Uncomment the copied code by removing the leading '-' from each line.

13. Add the following line on the top of your SQL console:  
`DROP PROCEDURE SBO_SP_TransactionNotification;`

The SQL console should look like this:



14. Execute the code in your SQL console to modify the SBO\_SP\_TRANSACTIONNOTIFICATION procedure.

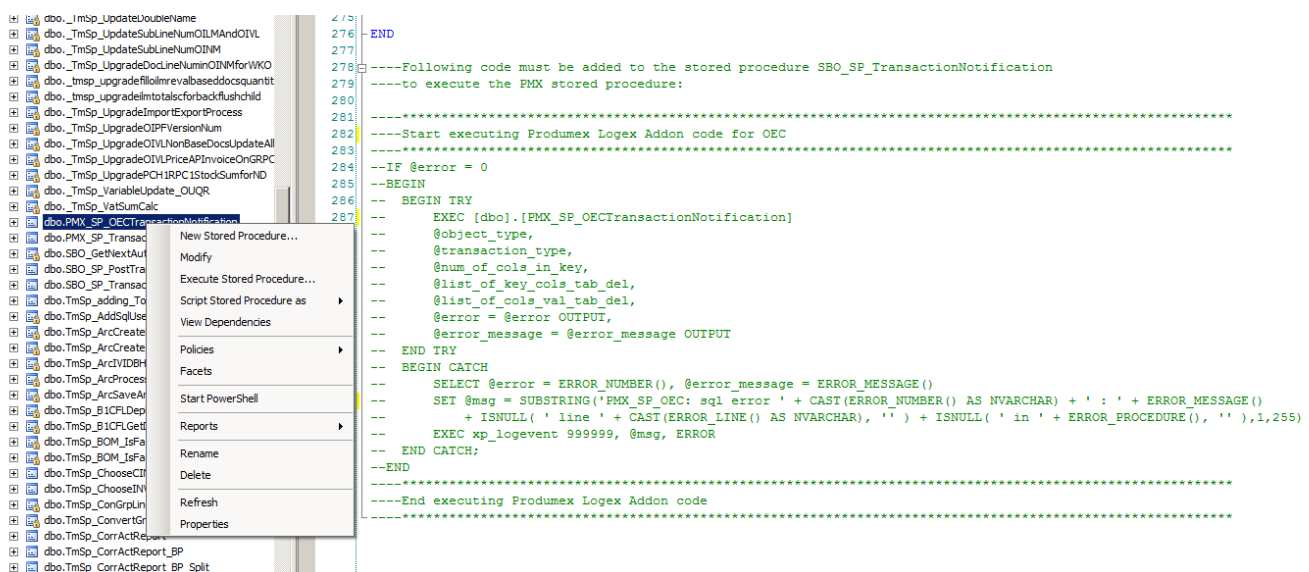
### 3.4.2. Enable a custom stored procedure

Every custom stored procedure related to Produemex WMS should be called from the PMX\_TransactionNotification stored procedure as this stored procedure is executed from all Produemex WMS flows and processes when creating or modifying a document.

The SBO\_SP\_TransactionNotification is only called when creating or modifying a standard SAP document.

1. Open the custom stored procedure.

In this example: PMX\_SP\_OECTransactionNotification.



2. Select the commented text and copy it to the clipboard (Ctrl+C).

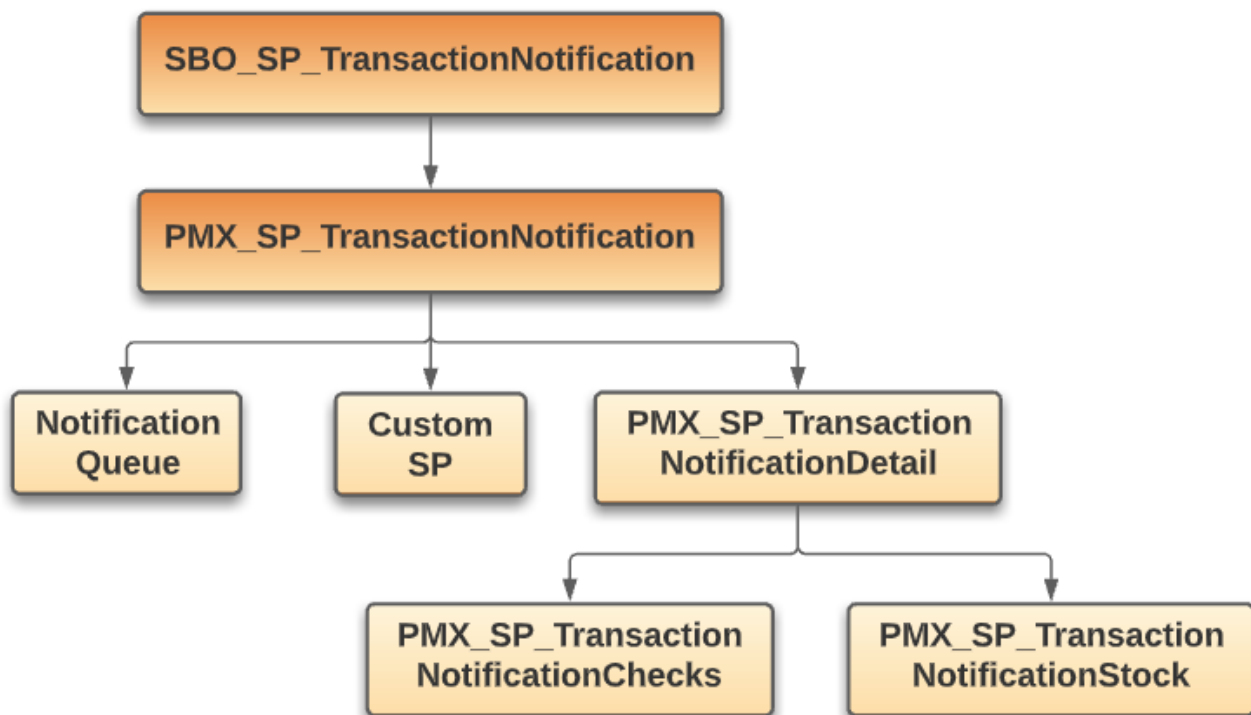
3. Open the PMX\_SP\_TransactionNotification for modification.

4. Paste the text to the PMX\_SP\_TransactionNotification (Ctrl+V) and uncomment it.

Note: If you have an older custom stored procedure, the header of the commented text may say that you should add it to the SBO\_SP\_TransactionNotification, but it should be added to the PMX\_SP\_TransactionNotification in this case as well.

5. Alter the PMX\_SP\_TransactionNotification with this modification.

#### Stored procedure call hierarchy



#### 3.4.3. Enable the Notification Listener stored procedure

After configuring the SB1 Notification Listener, the stored procedures must be enabled in the “PMX\_TransactionNotification” SAP stored procedure as follows.

Note: If the SB1 Notification Listener is not installed, continue with section [3.5. Register the Produmex add-on](#).

#### With Microsoft SQL Server

1. Open the SQL Server Management Studio and connect to your database server.
2. Expand the *Databases* folder and locate the company database to which you want to apply the Produmex Add-on.
3. Open this database directory and open the Programmability / Stored Procedures subdirectory.

4. Locate the `dbo.PMX_SP_TransactionNotificationQueue` stored procedure, right-click it and select *Modify*.



5. Locate the *Produmex SboNotification Queue Code* at the end of this stored procedure (see illustration below).



6. Copy the *Produmex SboNotification Queue Code*.

This code should now be pasted in the “`dbo.PMX_SP_TransactionNotification`” stored procedure in the **Company database** as follows.

7. Locate the “`dbo.PMX_SP_TransactionNotification`” stored procedure, right-click it and select *Modify*.



8. Paste the “*Produmex SboNotification Queue Code*” at the end of it, right after the code you have copied for the Produmex Addon stored procedure (see 3.3.1. Enable the standard PMX stored procedure).



9. Uncomment the SP by clicking the *Uncomment* button in SQL Management Studio.  
The result should look like this:



10. Execute the `PMX_SP_TransactionNotification` stored procedure.

#### **With SAP HANA**

1. Open the SAP HANA Studio and connect to your SAP HANA server.

2. Locate the `PMX_SP_TransactionNotificationQueue` stored procedure, right-click it and select *Open Definition*.



3. Open its content by opening the *Create Statement* tab.

4. Locate and copy the *Produmex SboNotification Queue Code* at the end of this stored procedure.  
This code should now be pasted in the `PMX_SP_TransactionNotification` stored procedure.





5. Locate the PMX\_SP\_TransactionNotification stored procedure, right-click it and select **Open Definition**.



6. Open its content by opening the Create Statement tab.

7. Paste the Produmex SboNotification Queue Code at the end of it.

8. Uncomment the copied code by removing the leading '-' from each line.

9. Execute the code.



### 3.5. Register the Produmex add-on

The following section describes the steps of registering the Produmex add-on component in SAP Business One on premise (section [3.5.1](#)) or on the Cloud Control Center (section [3.5.2](#)).

Note: Make sure that you run the SAP Business One Client as administrator.

#### 3.5.1. Register the add-on on premise

1. In SAP Business One navigate to Administration > Add-Ons > Add-On Administration.
2. Click the Register Add-On button.
3. Click the ... button and browse the add-on loader installation .ard file.

The installation file is located in the installation zip folder \<SBO Version>\AddOnLoader.



5. On the Add-on Installer screen select the installation folder, then click Next and then Finish.

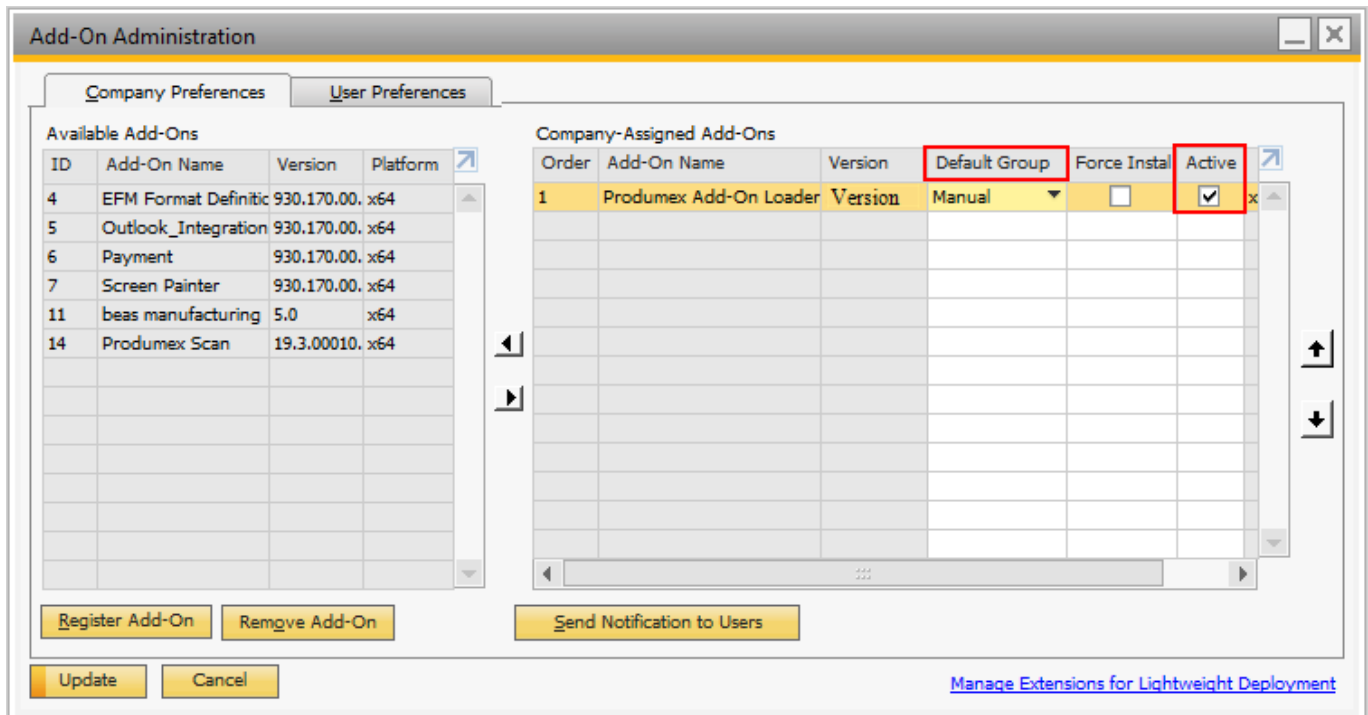


7. In SAP Business One navigate to Administration > Add-Ons > Add-On Administration.

8. On the *Company Preferences* tab select the Produmex Add-On Loader. Select the *Active* checkbox and set the Default Group.

From 2020, Produmex WMS version number contains 15 characters. In the Version column of the Add-on Administration window, SAP Business One 9.3 displays the first 13 characters of the installed add-on version.

The version number of the installed add-on loader can be found in the Add-On Name column.



9. On the *User Preferences* tab select the user *manager* and make sure that the Preferences is set to the required value for the Produmex Add-on Loader.

10. Click Update.



Continue with section [3.5.3. Update database.](#)

## 3.5.2. Register the add-on on the Cloud Control Center

### 3.5.2.1. Install the Add-On Loader on the Cloud Control Center

1. Create a Produmex subfolder within the folder you defined as the Extension Repository Path in Cloud Control Center.

2. Upload the zip folder of the lightweight installer to this Produmex folder. Do not unzip the file.

The zip folder is named:

Produmex\_WMS\_<versionnumber>.<SB0version>\_AddOnLoader\_lightweight.zip.

It can be found in the installation zip folder of Produmex WMS:

Produmex\_WMS\_<versionnumber>.<SBOversion>\<SBOversion>\AddOnLoader.

Regardless of the environment displayed in the name of the Produmex WMS installation folder, the lightweight installer zip contains both the x32 bit and the x64 bit installation files.

3. On the Cloud Control Center, navigate to Landscape Management > Extensions.

4. Check whether the installation file is listed on the *Extensions* grid.

5. Click the Synchronize All button to install the Produmex Add-On Loader and confirm that you would like to synchronize all extensions by clicking Yes.



If the installation is successful, the status of the Produmex Add-On Loader is successful on the Synchronization Report screen. The installation zip is automatically moved to the Produmex Shared Repository folder.



### 3.5.2.2. Deploy the Add-On Loader to the Service Unit

When upgrading the add-on to a new version, make sure that the add-on is not running on any presentation server. If there is a running add-on, the upgrade will fail.

The next step is to deploy the add-on loader on every service unit where you would like to use it.

1. Navigate to Landscape Management > Service Units.

2. Select the target service unit on the Service Units grid.

3. Go to the *Extensions* tab on the *Service Unit Details* grid and click the Deploy button.

4. Follow the steps of the Extension Deployment Wizard.

5. Select the Produmex Add-On Loader at the *Select Extensions* step, then finish the deployment.



### 3.5.2.3. Assign the add-on loader to the tenant(s)

The next step is to assign the Produmex Add-On Loader to the tenant(s) where you would like to use

it.

Note: This step is not required for a version upgrade.

1. Go to Customer Management > Tenants.
2. Select the tenant on the *Tenants* grid.
3. Navigate to the *Extensions* tab on the *Tenant Details* grid and click the Assign button.
4. Follow the steps of the Extension Assignment Wizard.
5. Select the Produmex Add-On Loader In the *Select Extensions* step, then finish the assignment.



### 3.5.3. Update database

Note: This step is not required for a version upgrade.

1. In SAP Business One navigate to Administration > Add-Ons > Add-On Manager > Installed Add-Ons tab.
2. If the Produmex Add-On Loader is not running, select it and click Start. The Produmex WMS add-on is started.

## 3.6. Configure clients

1. In SAP Business One navigate to Produmex > Organizational Structure.
2. Click on your company name.

Organizational Structure - Produmex WMS Add-On

Search

Code: COMP

Name: WMS\_Demo

General | Defaults | Extension Parameter | Production | SSCC | Reports | Print Events | Zone Types | Page Sizes

Language: English (3)

Company Logo URL

DB User Name: sa

DB Password: .....

PMX License Server

Logistic Carriers

- ☒ Store Logistic Carriers on 1 Storage Location by Warehouse
- ☐ Move All Logistic Carriers on Reception

Quality Status for Logistic Carriers: Released (RELEASED)

- ☐ Select Driver When Loading
- ☐ Select License Plate When Loading
- ☐ Select Trailer Number When Loading
- ☐ Goods Receipt Requires Suppl. Ref
- ☐ Goods Receipt Automatically Prints Item Labels
- ☐ Use Inventory Returnable Items on Documents
- ☐ Set Vat Group Returnable Items on Documents
- ☐ Check to Add Returnable Items
- ☐ Disable Item Selection in Flows
- ☐ Picklist Proposal Allowed to Exceed Order
- ☐ Do Not Lock Stock on Picking (Picklists can be created even if no stock is available.)
- ☐ Allow Overpicking
- ☐ Allow Overpicking (Customer Collect)
- ☐ Count Colli After Picking
- ☒ Embed .NET forms in SBO forms
- ☐ Usability Improvement Program

Ok Cancel Export Close

3. Make sure the IP address or host name of the server where the PMX License Server is running is filled in as add-on clients require this to be able to connect.

You can do this initially on the SBO license server itself because the add-on will try to connect locally if this field is empty.

If it is not possible to run the add-on on the machine running the PMX License Server, enter this information in the database after creating the company element. Table "PMX\_OSCO", field "SboLicenseServerAddress": only enter the IP address or host name, no port or other information is allowed.

The process of a fresh installation is finished. The [next section](#) describes the process of performing a version upgrade.

## 4. Performing a Version Upgrade

This section describes the process of performing a version upgrade. As installing a new version of Produmex WMS over an older version is similar to a fresh installation, this section does not go into detail in the parts that are the same as in a fresh installation.

In case of an SAP B1 patch level upgrade, only the configuration of Produmex Tools is necessary to be performed. See section [4.3.1. Configure the Produmex Tools](#).

Upgrading to product version 19.2 or higher from a version lower than 19.2 removes the need for an extra PMX database. For performance reasons all standard views, functions and stored procedures are created in the company database. Any customized view, function and stored procedure needs to be moved manually.

The existing extra PMX database is not removed by this upgrade. The database still exists and can be used for moving the necessary views, functions and stored procedures manually.

Upgrading to product version 19.2 or higher from a version lower than 19.2 is a non-reversible operation and future product versions will have this migration as well, therefore, it is recommended to create backups.

For upgrading from a pre-19.2 product version to any later one, version 19.2 needs to be installed first.

## 4.1. Uninstall components

Make sure that no one (neither SAP users nor Device clients) is logged in the SAP live environment by checking the Task Manager and disconnecting each user with open connection to the server. Make sure that no DB sessions are connecting to the company database on the SQL server.

Note: Device clients, like touchscreen-terminals and scanners, keep most of their data in cache, such as company settings and installation files. When these devices boot, they connect to the server and retrieve the new scripts and other installation files.

1.(Optional) Copy the configuration file *ProdumexInstallConfig.xml* from your previous installation folder into the ProdumexSuiteInstaller directory of your new version (It can be found in the installer package in the following sub folder: \10.0\ProdumexSuiteInstaller). This way you do not have to specify your SAP Business One databases manually.

2. Start the Produmex Suite Installer as an administrator. (It can be found in the installer package in the following sub folder: \10.0\ProdumexSuiteInstaller)

3. Accept the End User License Agreement.

4. Click **Uninstall All** to uninstall each installed component.

5. *(Optional)* Remove the outdated script assemblies, especially when newer versions of standard scripts or customizations within project files are involved. Deleting old script assemblies ensures integration of the latest updates, preventing conflicts and maintaining system stability. For removing obsolete scripts, delete the c:\Produmex\ScriptAssemblies folder.



## 4.2. Install components

From product version 2021.03, Produmex WMS requires License Server version 2021.03 or higher and does not work with previous License Server versions. Upgrading the License Server to version 2021.03 is a one-time operation, that is, future add-on versions are expected to work with License Server 2021.03.

Install all the necessary components. The installation process is the same as for a fresh installation (see [3.2. Install components](#)).

## 4.3. Configure components

### 4.3.1. Configure the Produmex Tools

1. Click on the Config button of Produmex Tools.
2. Select an instance alias which will connect to a company database that will be updated to the required Produmex version.
3. Click the Run button to start the Produmex Database Upgrade tool.



4. Change the default settings on the Produmex Database Upgrade screen if necessary and click Start (for information on the settings see section [3.3.1. Configure the Produmex Tools](#)).

5. If you are upgrading to version 19.2 or higher from a version lower than 19.2, a pop-up window informs you that the upgrade removes the need for an extra PMX database. Consult with the description on the pop-up window and click OK to proceed.



6. Confirm that you accept the creation of extra database items in the company database by entering CONFIRM in the field. This confirmation step is needed to ensure that you understand and take note of the change.





Note: The field is case sensitive. If you enter the wrong data, the installation process stops. In this case you need to close the Produmex Database Upgrade screen and start the configuration again.

7. The Produmex Database Upgrade displays the process.

The tool looks for the installed version, adds the necessary database modifications and you will also see custom adjustments executed if applicable.



8. On the Add-on Uploader Form select all row(s) corresponding to the installation and click Upload or if all the rows must be selected, click Select All and then click Upload.

When the upload is finished, click OK on the form and the screen is automatically closed.

The screenshot shows the 'AddOnUploaderForm' window. At the top, it says 'Company DB: ProdumexWMS\_Demo'. Below this are buttons for 'Stop scan', 'Browse', 'Upload !', and 'Select All'. A status bar at the bottom left says 'Upload completed'. A modal dialog box is centered on the screen with the text 'Upload completed' and an 'OK' button. The background table has columns 'Upload', 'Version', 'Directory', and 'FileName'. The 'Upload' column has checkboxes, and the 'Version' column has the word 'Version'. The 'Directory' column shows 'C:\Program Files\Produmex\Produmex'. The 'FileName' column shows 'Produmex.Foundation.Sb', 'Produmex.Sbo.Logex.Ad', and 'Produmex.Sbo.Logex.Ad'.

Upload	Version	Directory	FileName
<input checked="" type="checkbox"/>	Version	C:\Program Files\Produmex\Produmex	Produmex.Foundation.Sb
<input checked="" type="checkbox"/>	Version	C:\Program Files\Produmex\Produmex	Produmex.Sbo.Logex.Ad
<input checked="" type="checkbox"/>		C:\Program Files\Produmex\Produmex	Produmex.Sbo.Logex.Ad

9. When the upload is complete, close the Add-On Uploader Form and the Database Upgrade screen.

10. After starting the AddOn Loader in the SAP client, it will download the new files to the local computer into folder: "c:\Program Files\SAP\SAP Business One\AddOns\PMX\Produmex Add-On Loader 20\" Start the SAP client in Run as Administrator mode at first time after the upgrade.

#### 4.3.2. Configure the Produmex License Server

Configure the Produmex License Server in the same way as for a fresh installation (see section [3.3.2. Configure the Produmex License Server](#)).

The next section describes the configuration of the SB1 Notification Listener. If you do not need the tool, click Save on the Produmex Suite Installer screen and close it. Continue with section [4.4. Adaptation of stored procedures](#) below.

### 4.3.3. Configure the SB1 Notification Listener

1. On the Produmex Suite Installer screen click the **Config** button of the component.
2. Run the *Configure database* option in Console mode and when this is complete, press Enter.
3. Run the *List Actions* option in console mode and when this is complete, press Enter.

The configuration process is finished. Click **Save** on the Produmex Suite Installer screen and close the window.

### 4.4. Adaptation of stored procedures

Adjust the standard `SBO_SP_TransactionNotification` with the T-SQL code from the `PMX_SP_TransactionNotification` stored procedure in the same way as for a fresh installation (see section [3.4. Adaptation of stored procedures](#)).

Note: The same procedure applies to any custom stored procedure (if included in the custom version).

### 4.5. Register a new add-on loader

Start SAP Business One and the add-on files are automatically loaded.

In general, for a Produmex WMS version upgrade it is not required to install a new version of the add-on loader. Consult with the [Compatibility Matrix](#) and check if the installation of a new version is needed. The document describes which add-on loader version is required for the given add-on version.

Note: It is possible to have multiple add-on loader versions installed on one server.

(For more information on how to install the Add-on Loader see section [3.5. Register the Produmex add-on](#).)

The process of performing a version upgrade is finished. Make sure that the company settings of your organizational structure are correct.

The [next section](#) describes the process of adding a new database to an existing installation.

## 5. Adding a New Database to an Existing Installation

This section describes the steps of adding a new database to an existing installation.

1. Start the Produmex Suite Installer and go to the General tab.
2. Click on the green + button and set the connection details (see section [3.1.1. General tab](#)).



3. Test the SBO and the direct connection by clicking on the ...test... buttons.
4. Go to the tab of the server you want to connect the database to.
5. Click the Update Connection String button.



The connection strings assigned to the selected environment are added to every configuration file that belongs to that environment.

Note:

- Passwords provided in the connection string is encrypted.
- Already added connection strings are not removed from the configuration files.



6. Click on the Config button of the Produmex Tools and run the Produmex Database Upgrade tool on the new database (see section [3.3.1. Configuring the Produmex Tools](#)).
7. Adjust stored procedures (see section [3.4. Adaptation of stored procedures](#)).
8. Check if the references between the company database/schema and the Produmex database/schema are set correctly and are pointing to the right database.

Check the following stored procedures:

- SBO\_SP\_TransactionNotification/SBO\_SP\_TRANSACTIONNOTIFICATION
- PMX\_SP\_TransactionNotification/PMX\_SP\_TRANSACTIONNOTIFICATION
- additional stored procedures if the customization requires their modification

If you are using SAP HANA, also check the references in the following stored procedures:

- PMX\_SP\_TRANSACTIONNOTIFICATIONCHECKS
- PMX\_SP\_TRANSACTIONNOTIFICATIONSTOCK

9. Check if the Add-On Loader is assigned to the new company database.

## 6. Creating a Test Environment

## 6.1. Backup and restore

1. Create a backup from the company database/schema.
2. Restore the test database/schema with the backup created from the live database/schema and the test PMX database/schema with the backup created from the PMX live database/schema.
  - When restoring a database in MSSQL, make sure that you change the database/schema file names on the Files page as well.
  - For more information about schema export, import and migration on HANA click [here](#).

If you backup and restore the company database/schema only, customizations added in the PMX stored procedures will not be copied to the test environment.

## 6.2. Upgrade database

1. Start the Produmex Suite Installer.
2. Click the green + icon to add a new connection.
3. Set the environment to Test.
4. Specify the connection string in the Alias column.
5. Add the name of the company database.
6. Enter the SAP user name and password.
7. Test the SBO connection and the Direct connection.



8. Go to the tab of the database/schema server and change the Target environment to Test.

Components are installed in separate subfolders marked as *Test* when executing the installation in the Test environment.

9. Adjust the Directory path if needed.
10. Click the **Assign to this computer** button to mark that this is the server you are currently working on.
11. Install Produmex components and run the database/schema upgrade. Make sure that you select the right connection string.

**Note:** You cannot install a test Produmex License server. Before clicking the **Install all** button, make sure that you disable the Produmex License Server.



If there is an installed PMX version in the test environment and you don't need an upgrade, you can adjust the connection string in the configuration files by clicking the **Update connection string** button. For more information click [here](#).

## 6.3. Adjust company settings

1. Run the Produmex add-on and open the Organizational Structure. On the General tab adjust the following if needed:

- username
- password
- license server

2. On the [Config tab](#) adjust the EDI folder paths to make sure that test documents are not mixed with documents created for the live database/schema. The following paths needs to be adjusted:

- Interface monitor input archive path
- Interface monitor input error path
- Interface monitor input path
- Interface monitor output archive path
- Interface monitor output error path
- Interface monitor output path

From:

<https://wiki.produmex.name/> - **Produmex**

Permanent link:

[https://wiki.produmex.name/doku.php?id=implementation:wms:install\\_pdmx\\_suite](https://wiki.produmex.name/doku.php?id=implementation:wms:install_pdmx_suite)

Last update: **2021/07/21 17:20**

