

Administrator's Guide

SAP Business One 9.1 PL12

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CUSTOMER

SAP Business One Administrator's Guide

All Countries



Typographic Conventions

Type Style	Description
<i>Example</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
Example	Emphasized words or expressions.
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE	Keys on the keyboard, for example, F2 or ENTER.

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1 Introduction

The SAP Business One Administrator's Guide provides a central point for the technical implementation of SAP Business One, including server components, client components, and add-ons.

Note

Visit sappartneredge.com and select SAP Business One in your profile to ensure you receive the latest information about SAP Business One directly on your home page

Note

This guide covers only the installation, configuration, and upgrade of SAP Business One and its add-ons.

For information about installing the remote support platform (RSP) for SAP Business One, see *Administrator's Guide to Remote Support Platform for SAP Business One*. You can find the guide (*RSP_AdministratorGuide.pdf*) under ... \Documentation\Remote Support Platform\System Setup\ on the SAP Business One product DVD, or on sappartneredge.com.

For information about installing SAP Crystal Reports, version for the SAP Business One application, see *Installing SAP Crystal Reports, version for the SAP Business One Application*.

This guide consists of the following main sections:

- **Prerequisites**
Outlines the prerequisite steps you must complete before you can proceed with the installation and configuration of SAP Business One components.
- **Installing SAP Business One**
Provides instructions for installing and configuring SAP Business One components, and for removing the application.
The typical installation scenarios are:
 - Server–client installation
 - Standalone installation
 - Remote installation
- **Installing SAP Crystal Reports, version for the SAP Business One application**
Provides instructions for installing the application.
- **Uninstalling SAP Business One**
Provides the process flow and instructions for uninstalling the application.
- **Upgrading SAP Business One**
Provides instructions for upgrading SAP Business One. You can use either of the following upgrade methods:
 - Upgrading with the SAP Business One upgrade wizard — You can use the SAP Business One upgrade wizard to guide you through the upgrade of server components and client files. After completing the wizard successfully, you can log on to SAP Business One to upgrade the client application.
- Upgrading directly from upgrade folders — You can upgrade some SAP Business One components directly from files in the upgrade folder. This option is suggested for advanced users only. **Performing Post-Installation Activities**

Provides instructions for configuring SAP Business One components after you complete the installation.

The activities include:

- Configuring services
- Assigning SAP Business One add-ons
- Installing Microsoft Outlook integration standalone version
- Performing post-installation activities for the integration framework

- **Maintaining Databases**

Assists you with the following routine operations of SAP Business One and its database:

- Database server administration, including:
 - Starting and stopping database services
 - Performing weekly tasks
 - Performing regular tasks
 - Performing backups
 - Performing restore functions
 - Working with Data Transfer Workbench

- **Managing Security in SAP Business One**

Explains how to implement a security policy and provides recommendations for meeting the security demands of SAP Business One.

- **Getting Support**

Introduces the means by which you can get support from SAP, including:

- SAP Business One online help documentation
- SAP Notes
- Support desk

To find out how to access other information about SAP Business One, see the *Easy Start Guide* in the product folder.

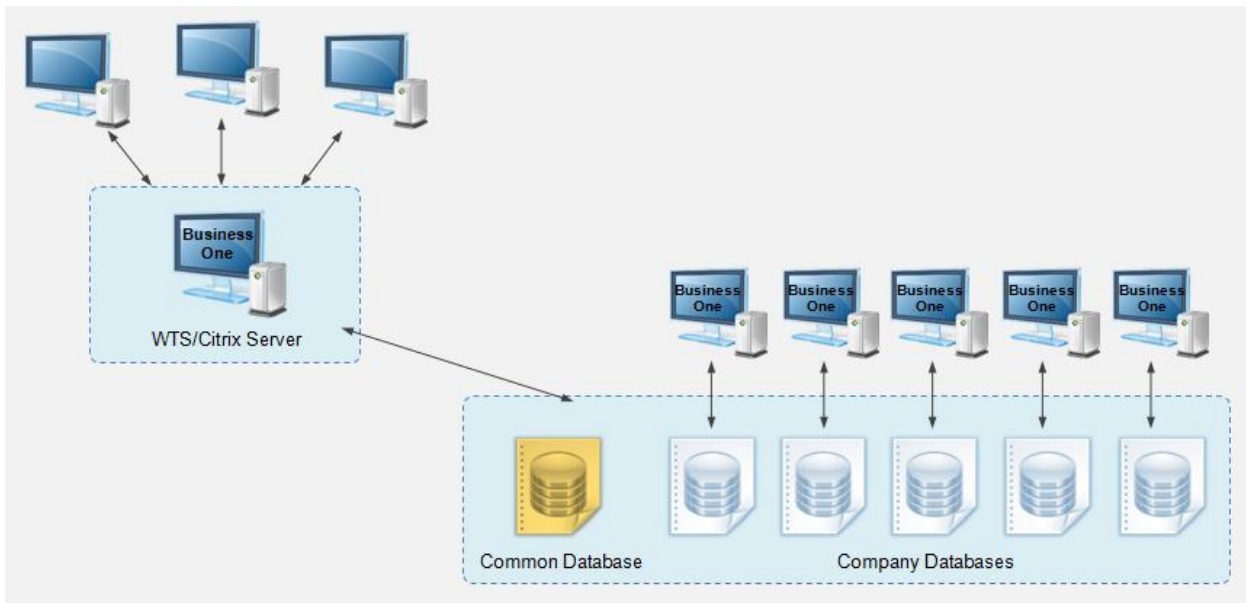
1.1 Application Components Overview

This section provides a description of the important software components of SAP Business One and how they are used by SAP Business One's business processes.

SAP Business One is a client-server application, consisting of a fat client and database server. The SAP Business One database stores only data and does not use triggers. However, the database does use views, especially for reporting and upgrade purposes.

SAP Business One can run on Windows Terminal Services or Citrix Server, and can run in several instances for different sessions.

The following figure provides an overview of the server architecture of SAP Business One.



SAP Business One Server Architecture

A typical installation scenario consists of the following components:

- Mandatory SAP Business One server components:
 - SAP Business One server

Includes the system database `SBOCOMMON` as well as a shared folder. `SBOCOMMON` is the central database that holds system data, version information, and upgrade information. Unlike company databases, `SBOCOMMON` does not store any business or transactional data.
 - License server

Works with Microsoft SQL Server to maintain user sessions and purchased licenses. You can install the license server on a different machine to the main SAP Business One server.
 - System Landscape Directory (SLD)

Authenticates users and manages an entire SAP Business One landscape. You must install the SLD on the same machine on which the license server is installed. You can access the SLD using a Web interface to:

 - Add, remove, and edit database servers
 - Manage authentication settings for database servers
 - View information about the companies on a database server
 - Enable single sign-on functionality
 - Manage encryption keys
 - Change the SAP Business One site password
- Optional SAP Business One server components:
 - Other services of SAP Business One server tools
 - Remote support platform for SAP Business One

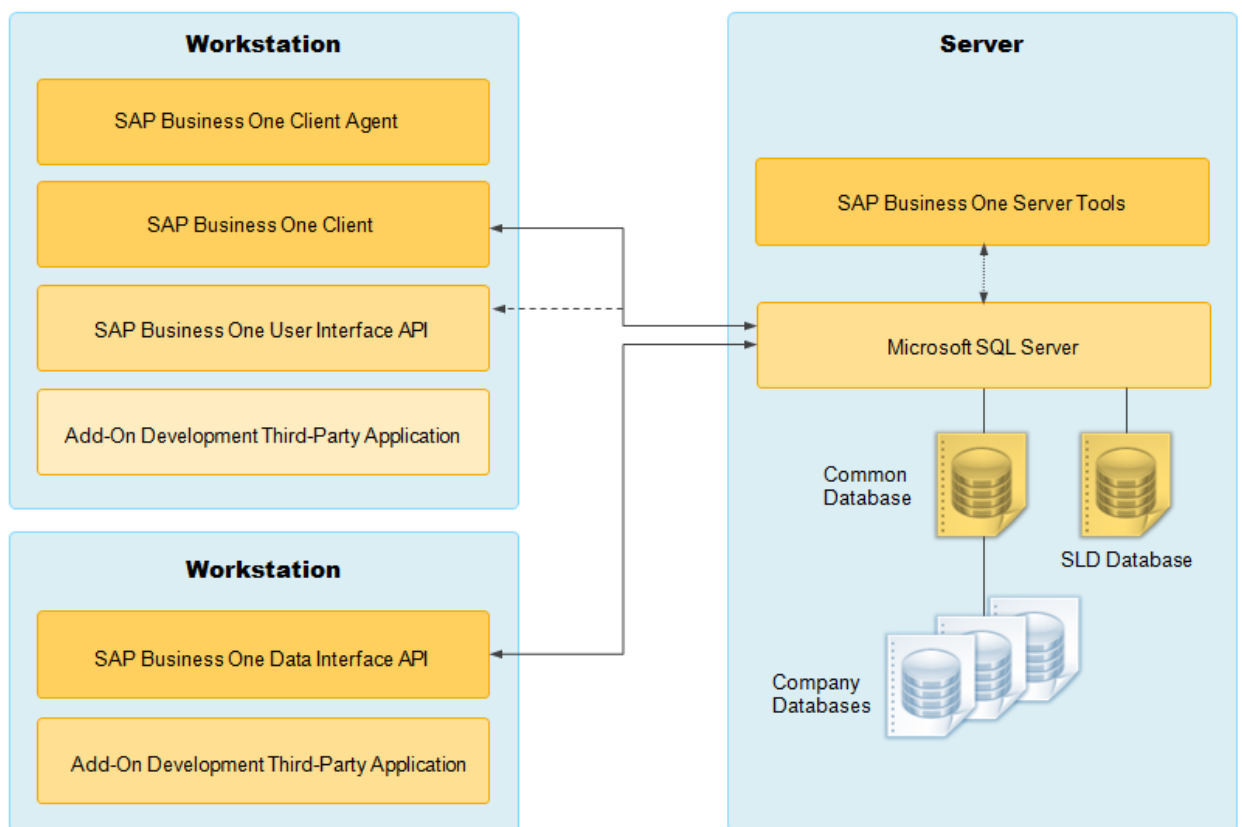
Proactively manages the installation and maintenance of SAP Business One. The platform remotely monitors the health of an SAP Business One installation and provides automated healing, backup support, and distribution of software patches.
 - Microsoft Outlook Integration Server Add-On

- The SAP Business One client is the application executable. The client computer holds the following SDK components used by add-ons:
 - Data Interface API — COM-based API and an applicative dll (OBSever.dll) file that enables add-ons to access and use SAP Business One business objects.
 - User Interface API — COM-based API that is connected to the running application and enables add-ons to perform runtime manipulation and enhancement of the SAP Business One GUI and its flow.

Note

All SAP Business One components must be installed in the same LAN (local area network). For users outside the LAN of the server (for example, using VPN connection), we recommend that you use a remote desktop to access the SAP Business One client instead of installing the SAP Business One client directly.

The following figure provides an overview of the architecture of SAP Business One.



SAP Business One Architecture

More Information

For the latest information that may not appear in this guide, see the following SAP Notes:

- SAP Note [2001307](#) (Central Note for SAP Business One 9.1)
- SAP Note [528296](#) (General Overview Note for SAP Business One Releases)
- SAP Note [2012414](#) (Release Update Note for SAP Business One 9.1 Limitations)

-
- SAP Note [2004987](#) (Collective Note for SAP Business One 9.1 Upgrade issues)
 - SAP Note [2014689](#) (Collective Note for SAP Business One 9.1 Documentation issues)
 - SAP Note [2014732](#) (Collective Note for SAP Business One 9.1 General issues)

2 Prerequisites

- For information on hardware requirements, see the *SAP Business One Hardware Requirements Guide* on sappartneredge.com.
- For an overview of support platforms for SAP Business One and related products, see the *SAP Business One Platform Support Matrix* on sappartneredge.com.
- For information about platform availability, including database platforms and operating systems, see the *Product Availability Matrix* on sappartneredge.com.
- For compatibility information regarding the SAP Business One client and SAP Business One OnDemand, see SAP Note [1756002](#).
- You have installed SAP Crystal Reports, version for the SAP Business One application. For more information, see [Installing SAP Crystal Reports, version for the SAP Business One Application](#).
- You have installed a supported version of Microsoft SQL Server.

Note

If you have not installed Microsoft SQL Server, you can install it during the installation process if you have installation media for Microsoft SQL Server.

- You have installed Microsoft .NET Framework 4.0 on the server.

Note

If you do not have Microsoft .NET Framework 4.0 installed, it is installed during the SAP Business One installation process. However, you will have to restart your machine. To avoid a restart, you may choose to install the framework before starting the SAP Business One installation.

- In the SAP Business One server installation and upgrade procedures, you have the option of installing remote support platform for SAP Business One. For more information, see *Administrator's Guide to Remote Support Platform for SAP Business One*. You can find the guide (*RSP_AdministratorGuide.pdf*) under `... \Documentation \Remote Support Platform \System Setup \` on the SAP Business One product DVD, or on sappartneredge.com.
- You have installed one of the following Web browsers on the machine on which you want to install the System Landscape Directory service:
 - Microsoft Internet Explorer 8 or later
 - Mozilla Firefox 9 or later
 - Google Chrome 12 or later
- To display dashboards in the SAP Business One client application, ensure you have installed Adobe Flash Player for the embedded browser Google Chrome on each of your workstations. You can download Adobe Flash Player at <http://www.adobe.com>.

Note

The download link provided by Adobe is by default for Microsoft Internet Explorer. To download Adobe Flash Player for other browsers, choose to download for a different computer, and then select the correct operating system and a Flash Player version for other browsers.

- You have ensured that the names of the machines on which you want to install SAP Business One do not contain one or more non-standard characters (standard characters are letters, digits, and hyphens).
Using non-standard characters in the name of a machine prevents it from being found on networks, and causes the installation of SAP Business One to fail.

2.1 Constraints

You can run the SAP Business One for 31 days without a license. To continue working with the application after 31 days, you must install a valid license key assigned by SAP.

Note

If you are a partner, for more information about installing the license key, see *SAP Business One License Guide* on sappartneredge.com.

The demonstration databases provided are not for productive use. The application supports 40 localizations in the demonstration databases.

2.2 User Privileges

The following table summarizes the requirements and recommendations for the group setup of the displayed operating system:

Operation	Operating System	User Group	
		Recommended	Minimum
Client installation	Microsoft® Windows operating systems	Administrator	Administrator
Client upgrade		Administrator	Administrator
Runtime		Users	Users

SAP Business One supports the Windows 7 and Windows 8 operating systems in a server configuration environment for standalone systems and clients.

Note

For more information about possible installer issues related to the user account control (UAC) in Microsoft Windows operating systems, see SAP Note [1492196](https://support.sap.com/en/notes/1492196).

2.3 Installation Checklist

To perform a correct and complete installation of SAP Business One, do the following:

1. Install Microsoft SQL Server 2008, 2008 R2, 2012, or 2014.
2. Install the SAP Business One server tools.

-
3. Install the SAP Business One server components.
 4. Install the SAP Business One client application on workstations.
 5. Install optional components (add-ons, SDK).
 6. Install the integration framework of SAP Business One.
 7. If you want to design your own Crystal Reports layouts and reports, install SAP Crystal Reports, version for the SAP Business One application.

The precise sequence of these steps depends on your installation scenario. For more information, see the relevant sections in [Installing SAP Business One](#).

3 Installing SAP Business One

Based on common business scenarios, the typical installation scenarios for SAP Business One are as follows:

- Server–client mode — SAP Business One server and server tools are installed on one machine; one or more clients are installed on other machines.
- Standalone mode — SAP Business One server components and clients are installed on a single machine.
- Remote mode — SAP Business One is installed on a terminal server or in a Citrix environment.

Latency and bandwidth requirements

All SAP Business One components must be installed in the same LAN (local area network). Putting the client and the server into two different locations (for example, VPN) will have an impact on the performance of SAP Business One. Thus, latency should be as low as possible (< 1 ms).

The same LAN means:

- Sufficient bandwidth > 100 M
- Small latency < 1 ms
- Same WINS server
- Same local DNS server, if configured
- Same AD server, if AD is being used

For users outside the LAN of the server (for example, those using VPN connection), we recommend that you use a remote desktop or the SAP Business One Browser Access service to access the SAP Business One client instead of installing the SAP Business One client directly.

3.1 Installation Scenarios

You can install SAP Business One using one of the following scenarios:

- Server–client mode

Server-client mode is considered best practice for an SAP Business One installation. In this mode, you install the following on the server:

- SAP Business One server tools
- SAP Business One server
- Microsoft Outlook integration add-on
- The integration framework of SAP Business One

You install the following on client machines:

- SAP Business One client
- Optional client components, which include:
 - SBO Mailer and fax service

- Software Development Kit (SDK)
- Data Transfer Workbench
- Microsoft Outlook integration add-on standalone version

- Standalone mode

You install the following server and client components on a single machine:

- SAP Business One server tools
- SAP Business One server
- Microsoft Outlook integration server installer add-on
- The integration framework of SAP Business One
- SAP Business One client
- Optional client components

- Remote mode

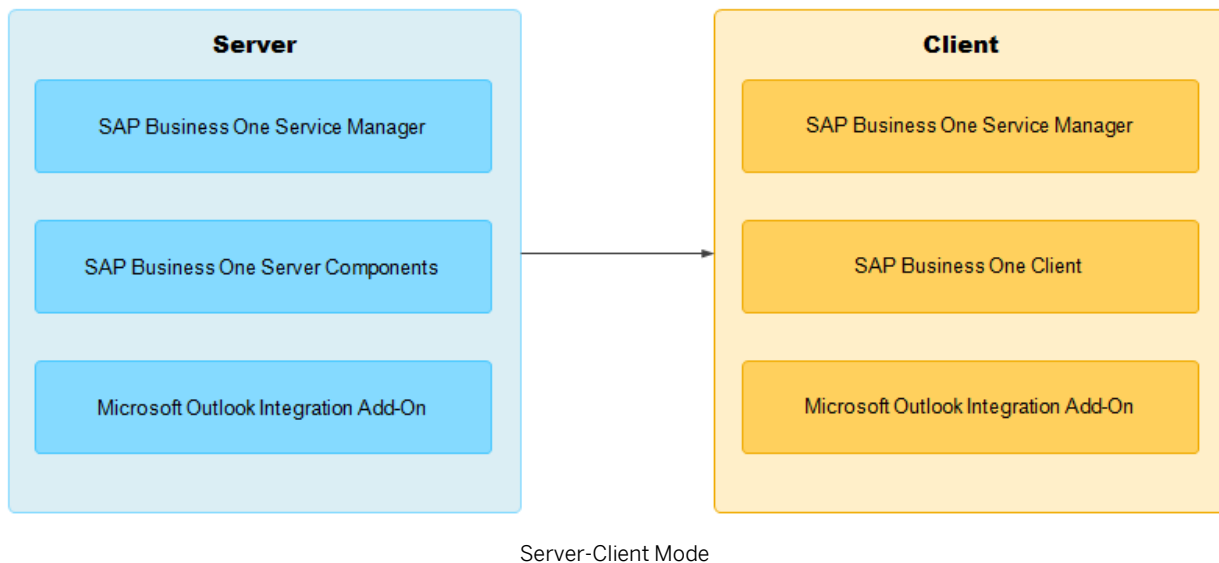
This mode enables users to log on to SAP Business One from a remote location. You install the following on a remote server:

- SAP Business One server tools
- SAP Business One server components
- Microsoft Outlook integration add-on
- The integration framework of SAP Business One
- SAP Business One client
- Optional client components
- Microsoft Windows server terminal services

On client machines, you install Microsoft terminal services client.

3.2 Installing SAP Business One in Server–Client Mode

In this scenario, you perform the server and client machine installations separately, as shown in the following figure.



3.2.1 Performing Server Installations

You need to perform the following actions on the server:

1. Install SAP Business One server tools, including the following:
 - o System Landscape Directory (SLD)
 - o License service
 - o Extension manager: Manages lightweight deployment of add-ons.
2. Install SAP Business One server, including:
 - o Shared folder (B1_SHR)
 - o System database (SBOCOMMON)
 - o Demo databases
 - o Online help files in all supported languages
 - o Microsoft Outlook integration server

i Note

You can install SAP Business One server tools together with the SAP Business One server. However, if you want to install them separately, you must install the server tools first. The System Landscape Directory is a precondition for all other server and client components.

3. Register add-ons.

The installation of the server components automatically registers all SAP add-ons on the server. There is no need for additional registering.

The SAP Business One server application automatically registers SAP add-ons to all companies on the server. Add-ons appear in the *Available Add-Ons* list in the *Add-On Administration* window.

For more information, see *Assigning SAP Business One Add-Ons*.

 **Caution**

The SAP Business One installation creates a new SQL user and password. Do not modify or delete this user ID or password. They are essential for the correct operation of the SAP Business One application.

4. Change the `sa` login password or create an alternative user.

For security reasons, we recommend that you set up a strong password for the `sa` user right after installing the SAP Business One database server. Alternatively, as a safer option, create another database user account as a substitute for the `sa` user. For more information, see *Database Authentication*.

 **Caution**

If you change the database administrator account, you must re-install the System Landscape Directory. For more information, see [Installing Server Tools](#).

Prerequisites

- The installation computer complies with all hardware and software requirements. For information on hardware and software requirements, search for related information on sappartneredge.com.
- You have administrator rights on the machine on which you are performing the installation.

 **Note**

For more information about possible installer issues related to the user account control (UAC) in Microsoft Windows operating systems, see SAP Note [1492196](#).

- If the machines on which the SAP Business One client and DI API run use an HTTP proxy for network access, you have added the System Landscape Directory server to the list of proxy exceptions.

3.2.1.1 Installing Microsoft SQL Server

 **Note**

The information given for Microsoft SQL Server 2008 is also valid for Microsoft SQL 2008 R2, Microsoft SQL 2012, and Microsoft SQL 2014.

 **Note**

For more information about upgrading Microsoft SQL Server, see the following documents:

- SAP Note [928839](#).
- "[Hardware and Software Requirements for Installing SQL Server 2014](#)" as stipulated by Microsoft® Corp.
- For the latest detailed platform support information, refer to the following overview pages:

Partners — See the *Platform Support Matrix for SAP Business One* on sappartneredge.com.

Customers — <http://service.sap.com/smb/sbocustomer> → *Documentation* → *Release Family 9.0* → *SAP Business One 9.1* → *System Administration* → *Platform Support Matrix for SAP Business One*.

Procedure

1. If the product package is zipped, you must first unzip the folder.
2. Navigate to the product root folder and double-click the `Autorun.exe` file.
If you are using Windows Server 2008 or Windows 7, right-click the `Autorun.exe` file and choose *Run as administrator*.
The SAP Business One Installation window appears.
3. In the installation window, select the *Server* radio button, and choose the *Next* button.
If you have already installed a supported version of Microsoft SQL Server, proceed with [Changing the sa Logon Password and Creating an Alternative User](#).



4. If Microsoft SQL Server is not detected, the Microsoft SQL Server installation window appears. Do one of the following:
 - o To install Microsoft SQL Server, select the *Install supported Microsoft SQL Server on this machine* checkbox and then choose the *Next* button.

Caution

Ensure that the name of the server on which you installed Microsoft SQL Server does not contain any special characters, such as: `&`, `<`, `>`, `"`, or `'`.

- o If you have installed Microsoft SQL Server, to continue with the SAP Business One installation, select the *If a compatible version of Microsoft SQL Server has already been installed, continue installing SAP Business One* checkbox.
Proceed to [Installing Server Tools](#).



5. In the Microsoft SQL Server Installation window, do the following:
 1. Insert the Microsoft SQL Server DVD in the DVD drive.
 2. In the *Installation Folder* field, specify the location where you want to install Microsoft SQL Server.
 3. To start the silent installation, choose the *Install* button.



6. In the message dialog box, choose the *OK* button.
7. In the *Choose file* window, locate the Microsoft SQL Server installation file (*setup.exe*).

Choose the *Open* button.

The setup begins a silent installation of Microsoft SQL Server components and applies the default values shown in the following table.

i Note

If you do not have Microsoft .NET Framework 4.0 installed, it is installed during the silent installation process. This requires restarting your machine before you can proceed with the installation of Microsoft SQL Server.

After restarting your machine, you need to start the installation procedure from the beginning (step 1). In step 6, in the *Choose file* window, locate the Microsoft SQL Server installation file (*setup.exe*) and proceed with the installation procedure.

i Note

Due to the following limitation in Windows Server 2008, the following applies:

If you are installing Microsoft SQL Server 2008, at the end of the silent installation, the Windows Desktop may disappear because of the Run as Administrator permissions settings.

If the Windows Desktop disappears, log off from Windows after the Microsoft SQL Server installation, then log back on and start the SAP Business One installation process from step 1.

i Note

If you install Microsoft SQL Server separately instead of during the SAP Business One installation, ensure that you enter the connection settings shown in the following table.

Window Name	Fields
Registration Information	<ul style="list-style-type: none">• <i>Name</i> — Copied from the local system• <i>Company</i> — Copied from the local system• <i>CDKey</i> — Copied from the installation DVD
Components to Install	SQL Server Database Service Workstation Components, Books Online, and development tools
Instance Name	MSSQLServer i Note Ensure that in the TCP/IP protocol properties of your SQL Server instance, the <i>TCP Port</i> field is set to 1433 . i Note If port 1433 is blocked by another application, you may use a different port. However, you must add the alternate port (for example, 9033) to the server name as follows: SERVER_NAME,9033.
Service Account	<ul style="list-style-type: none">• Use the built-in system account – Local System• Start the services at the end of the setup – SQL Server
Authentication Mode	<ul style="list-style-type: none">• <i>Mixed Mode (Windows Authentication and SQL Server Authentication)</i>

Window Name	Fields
	<ul style="list-style-type: none"> • <i>Password</i> — SAPB1Admin
Collation Settings	<p>SQL collations – <i>Dictionary order case-insensitive, for use with 1252 Character set, Accent - Sensitive (SQL_Latin1_General_CP1_CI_AS)</i>.</p> <p>i Note</p> <p>If you manually install SQL Server, in the <i>Collation Settings</i> window, select the <i>SQL collations (used for compatibility with previous versions of SQL Server)</i> radio button and choose the <i>SQL_Latin1_General_CP1_CI_AS</i> option from the list.</p>
Error and Usage Report Settings	None marked

8. When Microsoft SQL Server is installed successfully, and you can see the confirmation window, you can remove the Microsoft SQL Server DVD.

To continue with the SAP Business One installation, choose the *Next* button.

i Note

To create high-availability for your server, you can use the AlwaysOn Failover Cluster Instances and Log Shipping high-availability solution options provided by the Microsoft SQL Server. For more information, see the Microsoft documents at www.microsoft.com.

3.2.1.2 Changing the sa Logon Password and Creating an Alternative User

For security reasons, set up a strong password for the *sa* user right after installing the SAP Business One database server. Alternatively, as a safer option, create another database user account as a substitute for the *sa* user. For more information, see [Database Authentication](#).

! Caution

If you change the database administrator account, you must re-install the System Landscape Directory. For more information, see [Installing Server Tools](#).

3.2.1.3 Installing Server Tools

! Caution

If you are installing the server tools on Microsoft Windows Server 2008 R2, you must first turn off Microsoft Internet Explorer Enhanced Security Configuration (IE ESC), as follows:

1. In Windows, choose *Start* → *All Programs* → *Administrative Tools* → *Server Manager*.
2. In the *Security Information* area of the *Server Manager* window, click *Configure IE ESC*.

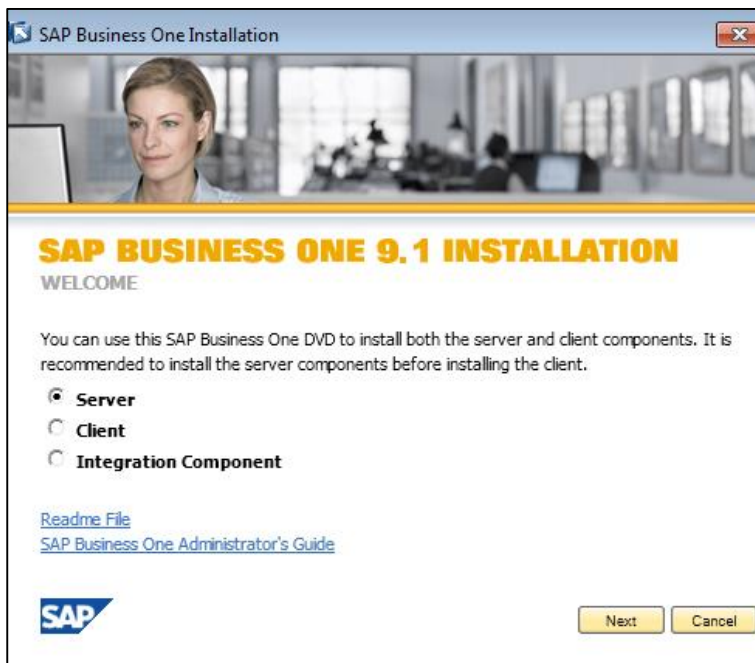
The *Internet Explorer Enhanced Security Configuration* window appears.

3. In the *Administrators* and *Users* areas, choose both *Off* checkboxes.
4. Choose the *OK* button.

Procedure

To install the server tools for SAP Business One, do the following:

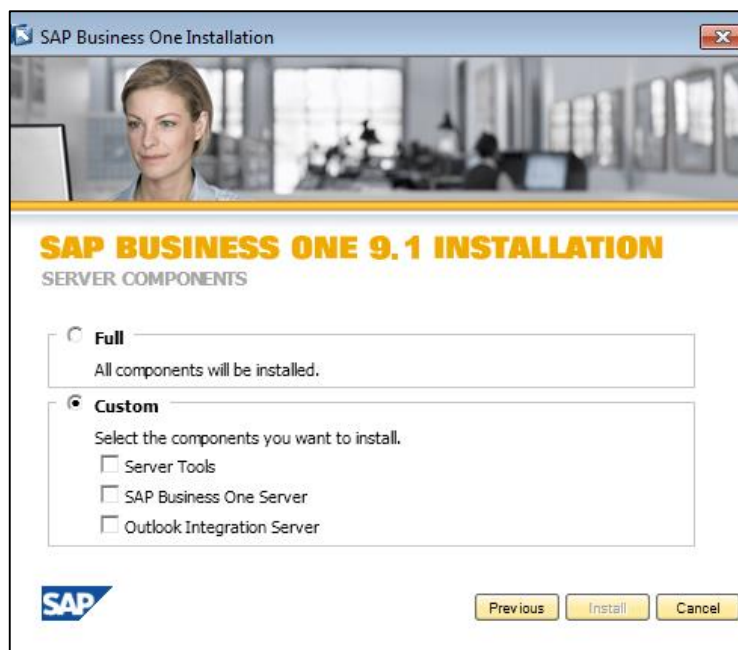
1. Navigate to the product root folder again and double-click the `Autorun.exe` file.
If you are using Windows Server 2008 or Windows 7, right-click the `Autorun.exe` file and choose *Run as administrator*.
2. In the installation window, select the *Server* radio button, and choose the *Next* button.



3. In the *Server Components* window, do one of the following:
 - o To automatically install all required server components in one batch, on the same computer, select the *Full* radio button.
 - o To install server components individually, select the *Custom* radio button and select the components that you want to install.

➔ Recommendation

Select the custom option as this option lets you view all available server components. You can then select the components that you want to install on different machines.

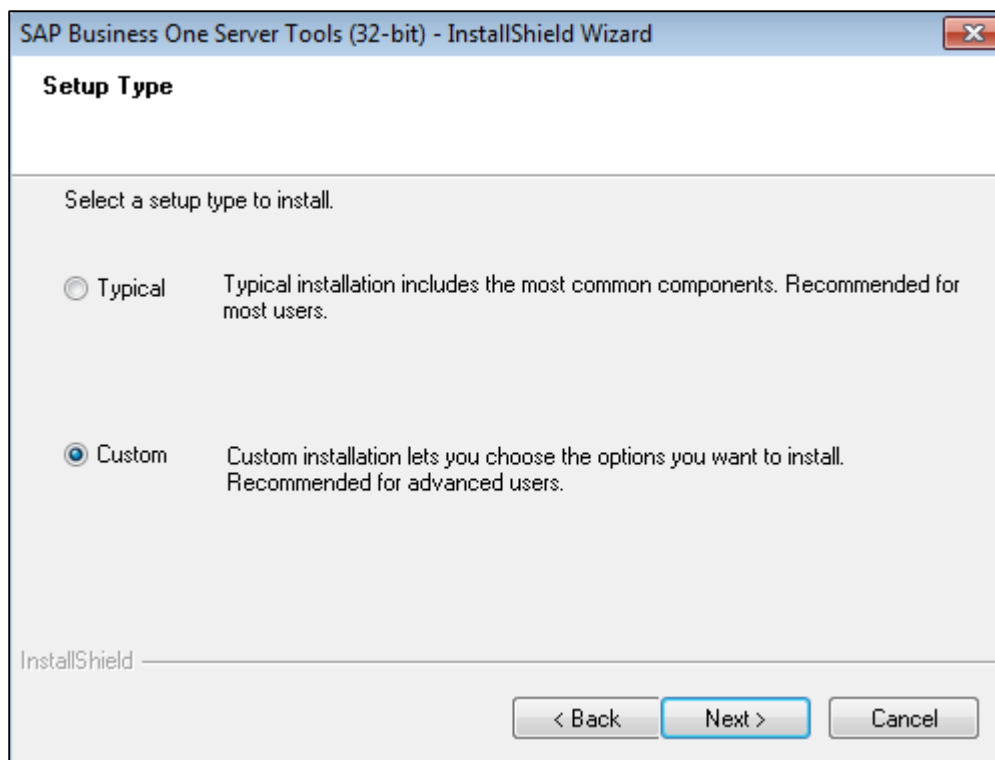


To run the InstallShield wizard, choose the *Install* button.

 **Caution**

It may take some time for the InstallShield wizard to appear. While you are waiting for the wizard to load, do not activate any other window.

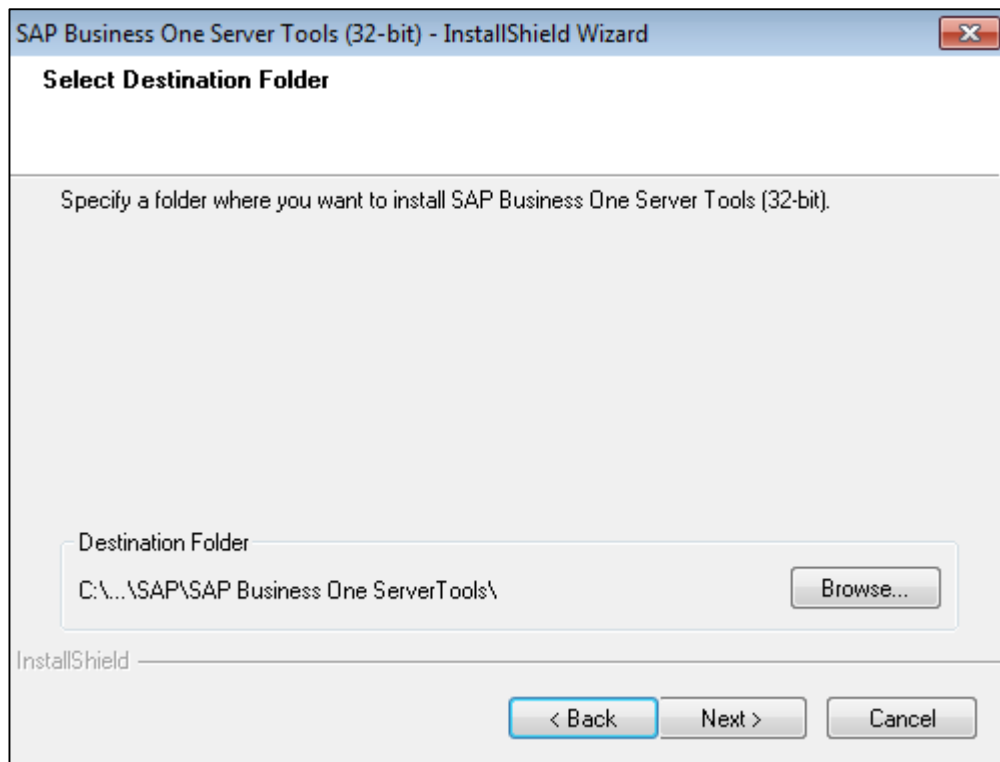
4. In the *Welcome* window, choose the *Next* button.
5. In the *Setup Type* window, select one of the following options:
 - o *Typical* — Installs the most common components.
 - o *Custom* — Installs the components you select.



6. In the *Select Destination Folder* window, specify the location where you want to install the server components.

 **Caution**

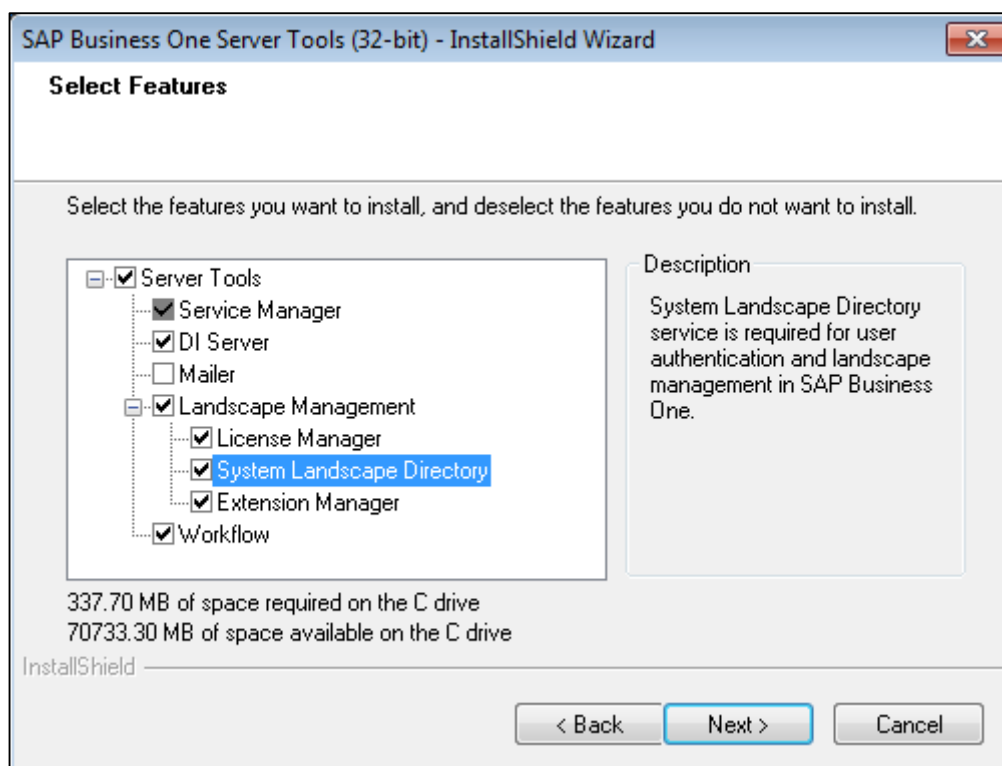
To install the server components and all additional components, use the standard directory (... \SAP \SAP Business One Server). If you change the path, do not change the directory names. This rule also applies to the installation of the server components and the client components.



7. In the *Select Features* window, select the corresponding checkboxes for the components you want to install.

i Note

SAP Business One Service Manager is required to access all server tools. The *Service Manager* checkbox is automatically selected and you cannot deselect it.



8. In the *Site User Password* window, enter and confirm the password for the SAP Business One site user account.

The site user ID serves as site-level authentication for performing the following activities:

- o Configuring database credentials
- o Creating companies
- o Configuring services
- o Registering add-ons
- o Updating read-only user passwords

A site user password is required for authentication against the SLD service during the following situations:

- o Configuring services via SAP Business One Service Manager
- o Installing SAP Business One servers
- o Creating new companies on SAP Business One clients

Note

To configure any service in the service manager after installation, you must specify the site user password only on the first logon.

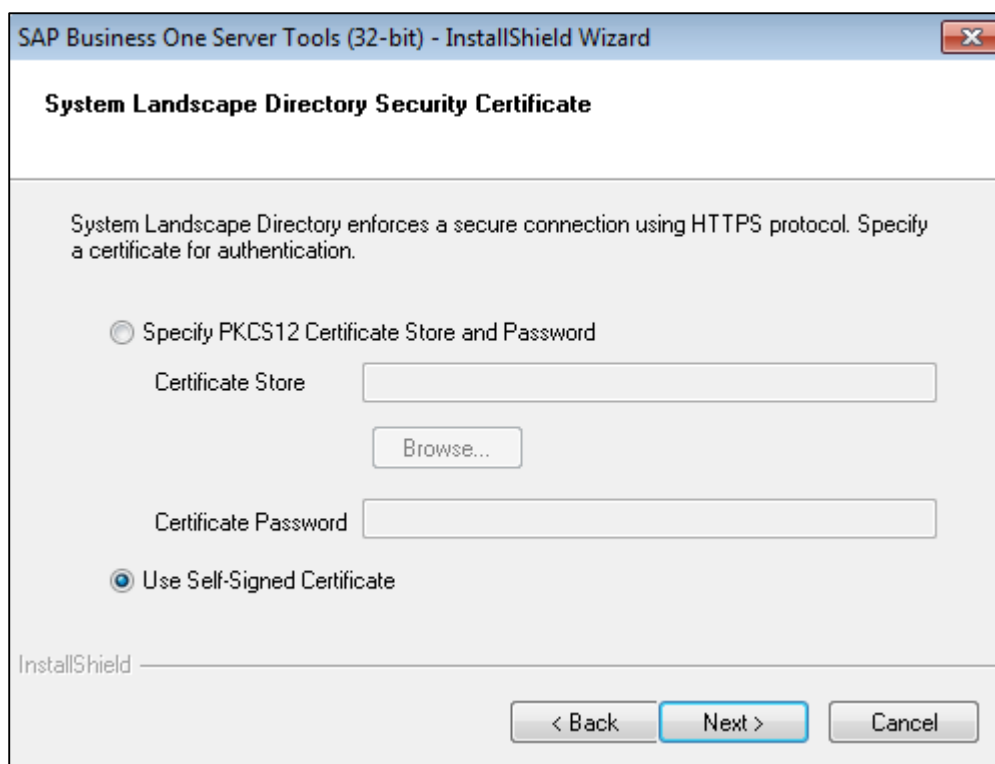
Recommendation

For security reasons, you should set a strong site user password, at least as strong as that defined in your company's password policy, and change it frequently. For more information, see *Managing Security in SAP Business One*.

9. In the *System Landscape Directory Security Certificate* window, enter a valid PKCS12 certificate store and password or select the *Use Self-Signed Certificate* radio button.

Communication between the SLD and SAP Business One clients or DI API is encrypted using the HTTPS protocol, so a certificate is required for authentication. You can obtain a certificate using the following methods:

- Third-party certificate authority – You can purchase certificates from a third-party global Certificate Authority that Microsoft Windows trusts by default. If you use this method, select the *Specify PKCS12 Certificate Store and Password* radio button and enter the required information.
- Certificate authority server – You can configure a Certificate Authority (CA) server in the SAP Business One landscape to issue certificates. You must configure all servers in the landscape to trust the CA's root certificate. If you use this method, select the *Specify PKCS12 Certificate Store and Password* radio button and enter the required information.
- Generate a self-signed certificate – You can let the installer generate a self-signed certificate; however, your browser will display a certificate exception when you access the SLD server as the browser does not trust this certificate. To use this method, select the *Use Self-Signed Certificate* radio button.



10. In the *System Landscape Directory Database Configuration* window, specify the following:

- o *Database Server* — Enter the name of the database server on which you want to install the SLD database.

 **Caution**

Ensure you install the SLD service on the same machine as the license service.

- o *Database Name* — Enter a name for the SLD database.

 **Note**

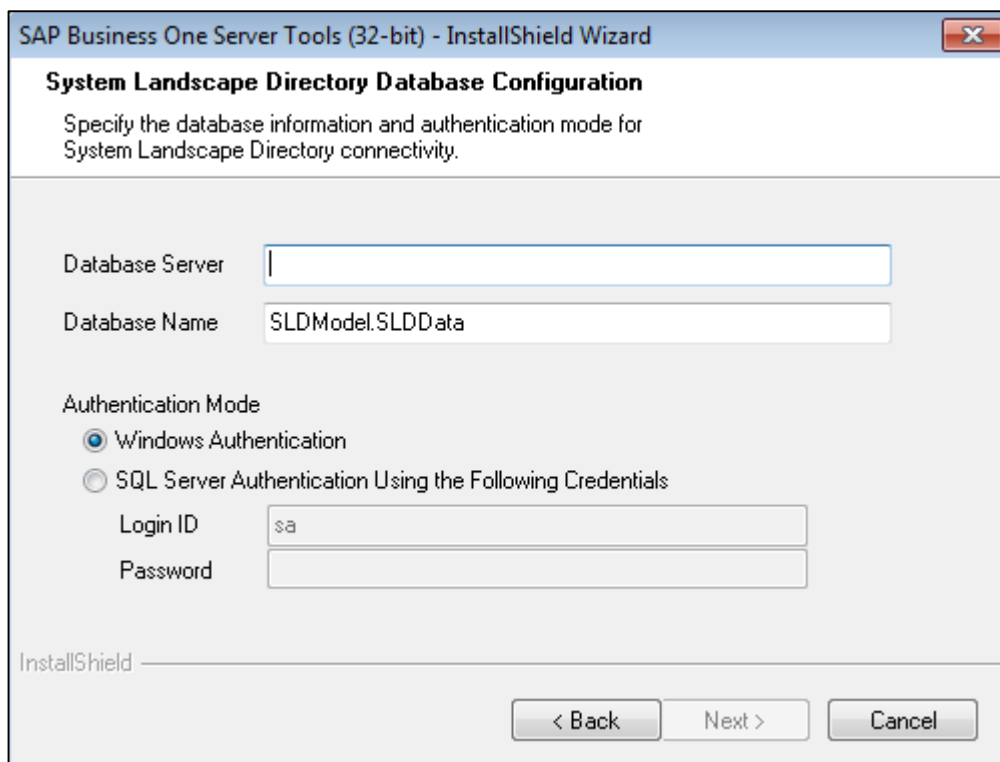
Ensure that the server name does not contain underlined text '_'. Otherwise, you will not able to add the server to the SLD.

- o *Authentication Mode* — Select the type of authentication you want to use. If you select SQL Server authentication, enter the user name and password of the `sa` account.

 **Recommendation**

Select SQL Server authentication, as Windows authentication has the following limitations:

- o Windows authentication in SAP Business One is a server level configuration. All users on the same SAP Business One server can use Windows authentication to connect to Microsoft SQL Server.
- o Windows authentication requires you to maintain each computer added to the domain, while SQL Server authentication shares database users (such as `sa`) on the same SAP Business One server.
- o Windows authentication requires the Microsoft Windows account on which the SLD service runs to have administrative permissions on the database.



- To install the selected components, choose the *Next* button.
- To change the settings, choose the *Back* button to return to the previous steps.

11. In the *Complete* window, choose the *Finish* button.

i Note:

If you later change the password of the database user used to install the System Landscape Directory (SLD), the SLD will stop working. Additionally, you cannot change the certificate for secure connection to the SLD. For more information, see the sections *Cannot change database user password for System Landscape Directory* and *Cannot change certificate for System Landscape Directory* in [Troubleshooting Security](#).

3.2.1.4 Installing the SAP Business One Server

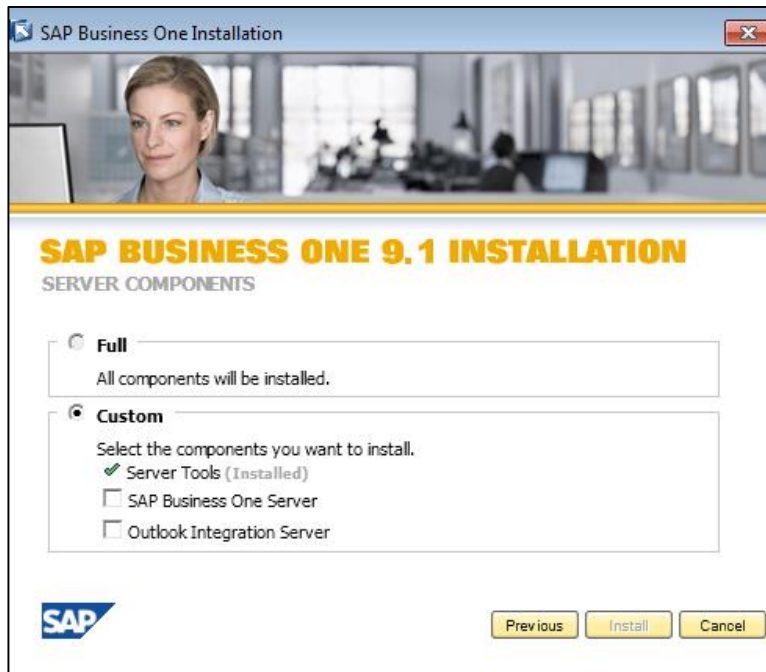
Prerequisites

- You have your computer's name or IP address available.
 - To check your computer's full name, do the following:
 1. In Windows, choose *Start* → *Control Panel* → *System*.
The name of your computer appears in the *System Properties* window, on the *Computer Name* tab, next to the *Full computer name* field.
 2. Keep a record of the displayed computer name.

- To check your computer's IP address, do the following:
 1. In Windows, choose *Start* → *Run*.
 2. In the *Open* field of the *Run* window, enter `cmd` and press `Enter`.
 3. In the `cmd.exe` window, enter `ipconfig` and press `Enter`.
 4. Keep a record of the displayed IP address.
- If the SAP Business One license server is installed on a different computer, ensure that the license server is running when you are installing the SAP Business One server. For information about starting the license server, see *Configuring the License Manager*.

Procedure

1. In the *Server Components* window, you can see that the installed Server Tools option is marked as installed now. To continue with the SAP Business One server installation, select the *SAP Business One Server* checkbox, and then choose the *Install* button.



2. In the *Welcome* window, to continue, choose the *Next* button.
3. In the *Customer Information* window, specify your user ID and company name, and then choose the *Next* button.

SAP Business One Server - InstallShield Wizard

Customer Information

Enter your details.

User ID
SAP

Company Name
SAP IT|

InstallShield

< Back Next > Cancel

- If your license server is installed on a different machine, the *License Authentication* window appears. In the *License Authentication* window, specify the license server information you defined in the server tools installation.

Choose the *Next* button.

If you have problems specifying the license server address, use the IP address of the license server.

 **Caution**

Use standard ports. Changing the ports can affect the installation of the components that follows this installation. This rule applies to the installation of all the server and client components.

Note:

The license service uses the Common Object Request Broker Architecture (CORBA). To ensure that the license service works properly, ensure the following:

- Only install one network interface card (NIC) on the CORBA license server.
- Only assign one IP address to the CORBA license server.
- Do not use a dial-up or VPN interface-configured server.

To solve this issue, perform the following (if applicable):

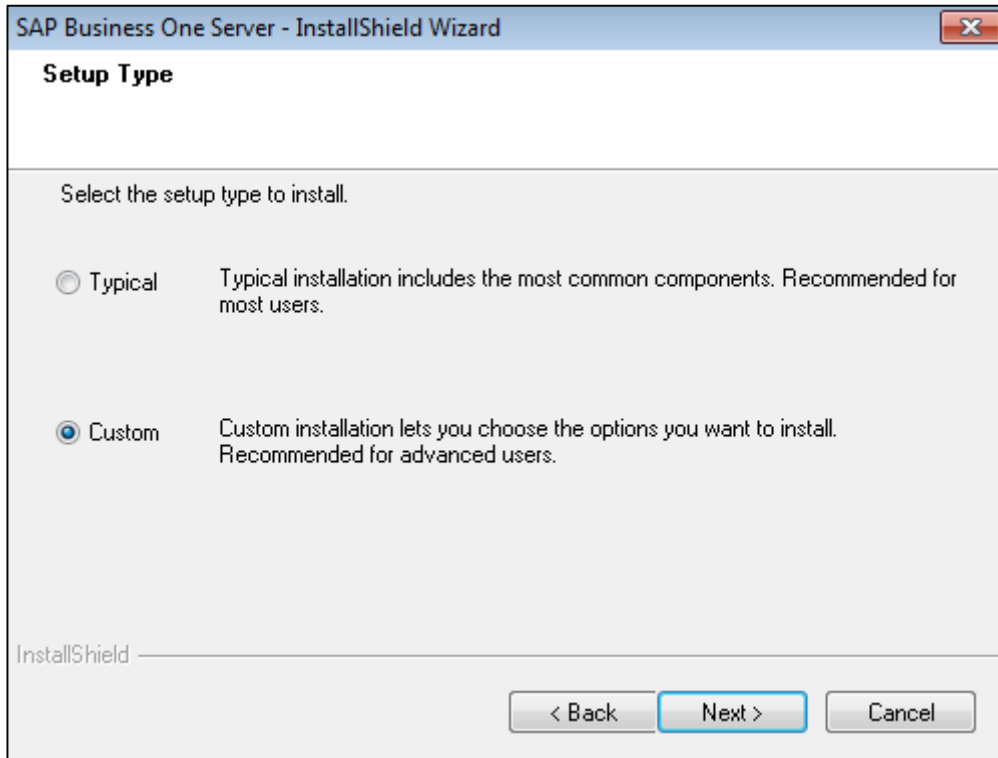
1. Change the registry entry and add the IP address of the license server computer as follows:
2. For 32-bit operating systems: HKEY_LOCAL_MACHINE\SOFTWARE\ACE\TAO
3. For 64-bit operating systems: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\ACE\TAO
4. For example: `-ORBEndPoint iiop://10.59.39.60:30000 -ORBDottedDecimalAddresses 1`
5. Use the IP address instead of the computer name for the license server address where required, such as for the SAP Business One client, DI API, B1i, and so on.

OR

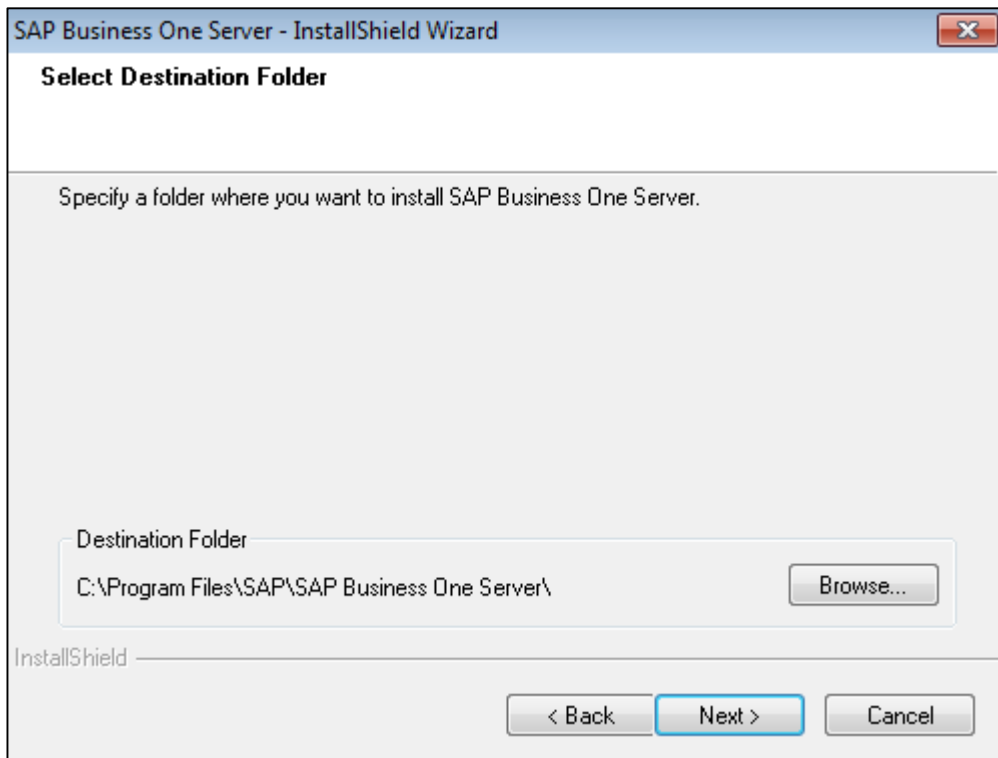
6. Disable additional network cards in the Control Panel according to your system instructions. Ensure there is no dial-up interface or VPN interface configured and restart the server. Note that you can re-enable the additional network card after restart. This will resolve the issue until the next restart.
- For more information, see SAP Note [1135705](#).

5. In the *Setup Type* window, select one of the following options:

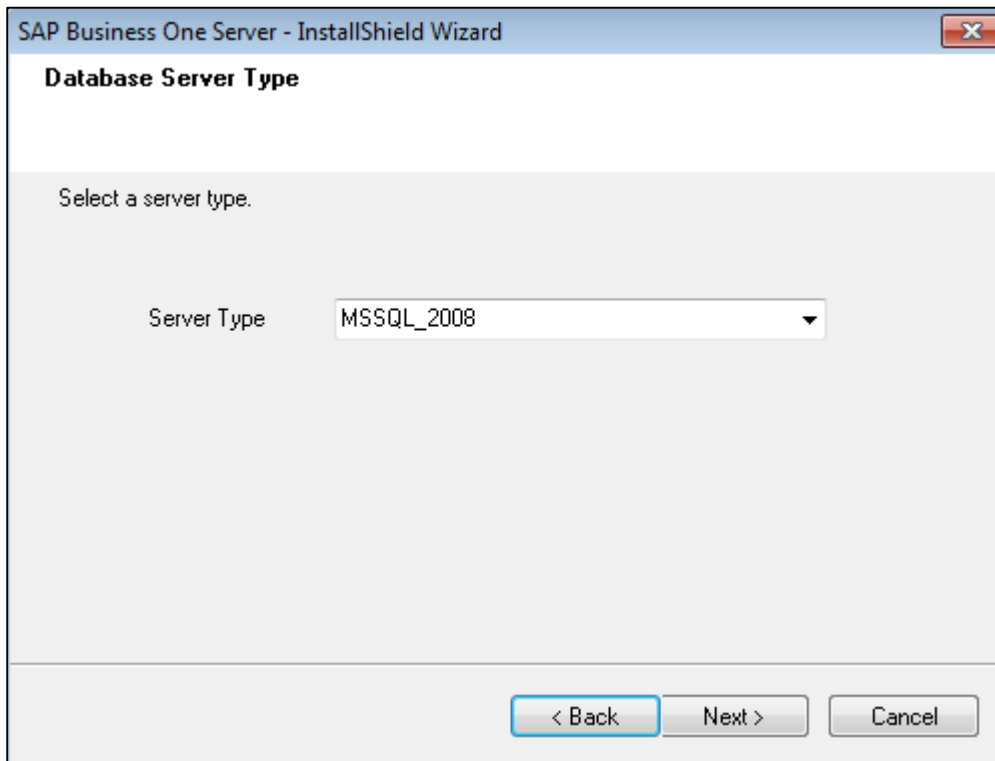
- *Typical* — Installs all components (recommended).
- *Custom* — Allows you view the installation options so you can choose the components you want to install.



6. In the *Select Destination Folder* window, specify the location where you want to install the server.



7. In the *Database Server Type* window, from the *Server Type* dropdown list, select the database type installed on the server computer.



8. In the *Database Server Logon* window, specify the following database server connection settings:
 - o *Server Name* — Enter the name or IP address of the server.

 **Caution**

To specify a local machine, enter `localhost`. Do not enter `local`.

 **Caution**

Ensure that the name of the server on which you installed Microsoft SQL Server does not contain any special characters, such as: &, <, >, ", or '.

- o *Database User ID* — Enter the user ID for the Microsoft SQL server.
- o *Database Password* — Enter the password for the Microsoft SQL server.

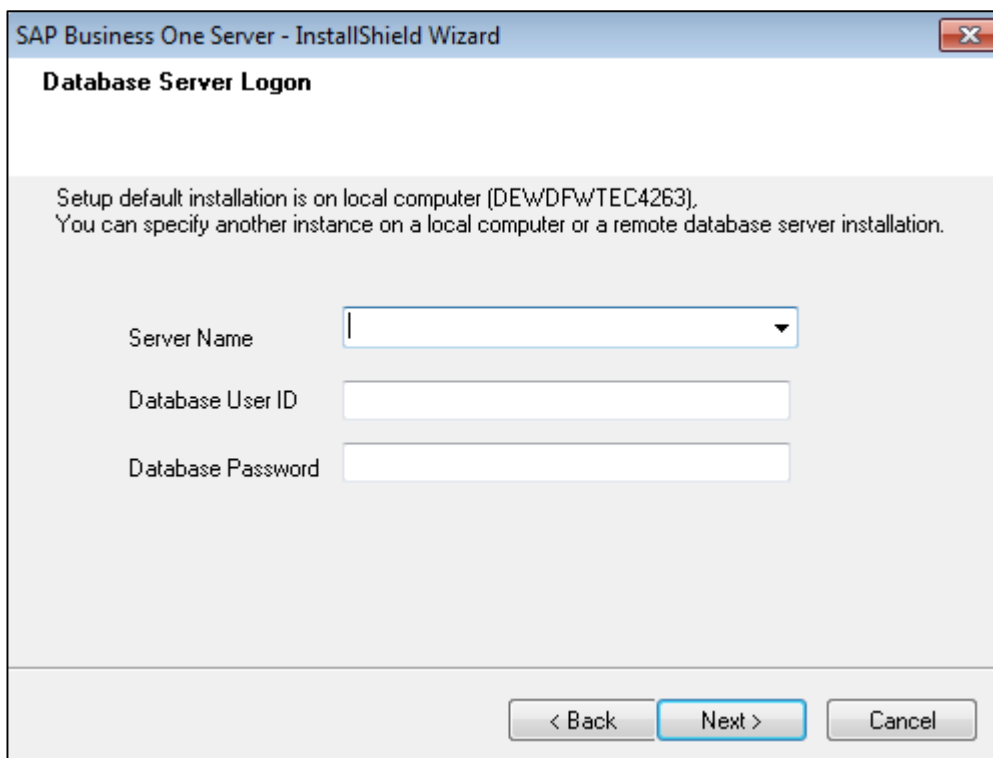
 **Note**

If you use the SAP Business One installer to perform a silent installation of Microsoft SQL Server, then the default user ID and password are: `sa` and `SAPB1Admin` (case sensitive).

 **Recommendation**

After installing SAP Business One, change the default password or create a new database administrator. For more information, see [Changing the sa Logon Password and Creating an Alternative User](#).

If you selected the *Typical* installation option in step 5, proceed to step 10.



9. In the *Select Features* window, select the features you want to install from the following:

i Note

The features you select here depend on your system environment. Therefore, some features may not be available to you.

- *System Databases* — Installs the SAP Business One common database (SBO-COMMON). This database is visible only at the Microsoft SQL Server level, and does not appear in the list of companies in the SAP Business One application. When you install a new patch or perform an upgrade to SAP Business One, the installer upgrades the common database. The default values in the common database are available for every new database that you create.
- *Demo Databases* — Installs demonstration databases in the selected localizations.
- *Help* — Installs help files in the selected languages.
- *Server Components* — Installs shared network objects.
- *SAP Add-ons* — Registers the SAP add-ons on the server.

i Note

If you want to install SAP add-ons, you must select the *SAP Add-ons* checkbox in the *Select Features* window. For information, see *Assigning SAP Business One Add-Ons*.

- *Remote support platform* — Installs remote support platform for SAP Business One on the server.

i Note

By default, the remote support platform is preselected to install.

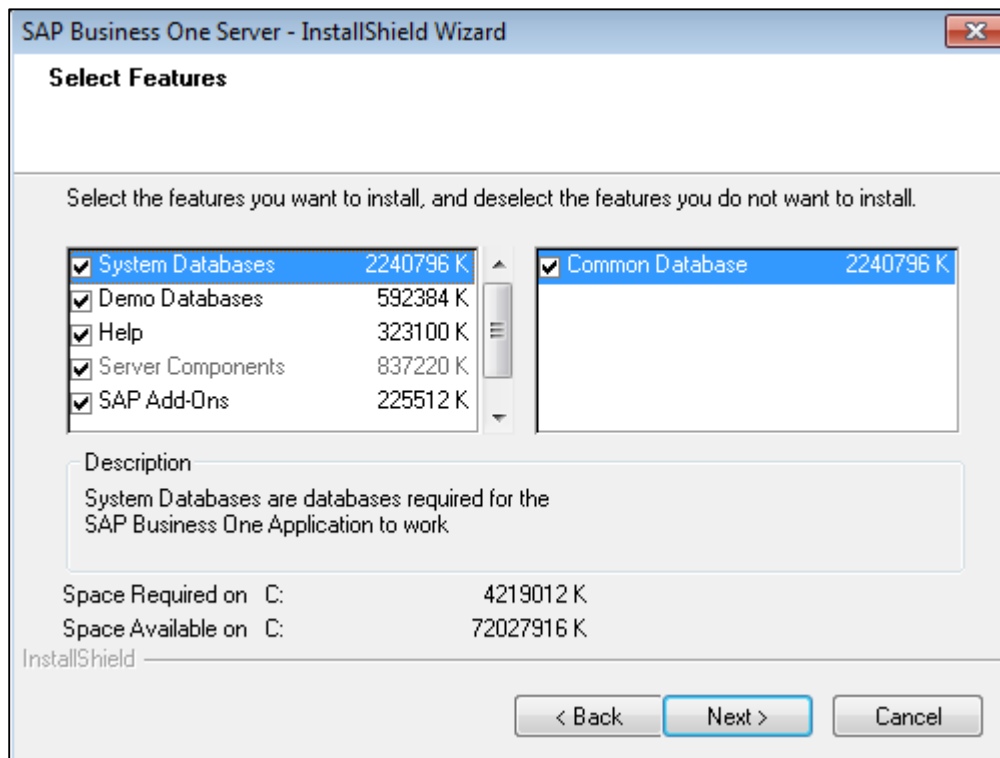
The installation is performed by the installation wizard of remote support platform for SAP Business One at a later stage. For more information, see *Administrator's Guide to Remote Support Platform for SAP*

Business One. You can find the guide (*RSP_AdministratorGuide.pdf*) under ... \Documentation\Remote Support Platform\System Setup\ on the SAP Business One product DVD, or search for related information on sappartneredge.com.

i Note

If the installation of remote support platform for SAP Business One fails, this does not affect the successful installation SAP Business One.

The installation of remote support platform for SAP Business One does not impact SAP Business One business processes. There is no technical dependency between SAP Business One and remote support platform for SAP Business One.



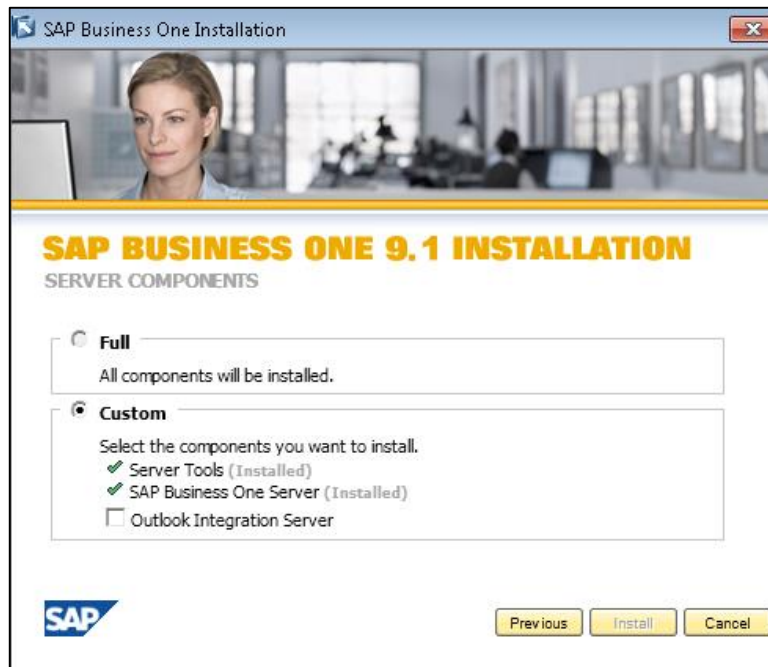
10. In the *Review Settings* window, do one of the following:
 - o To confirm the settings and proceed with the installation, choose the *Next* button.
 - o To change any settings, choose the *Back* button to return to previous windows.
11. In the *Setup Status* window, the setup wizard begins copying files, which may take several minutes, depending on the number of demonstration databases you selected.
12. In the *Setup Complete* window, choose the *Finish* button.

3.2.1.5 Installing Microsoft Outlook Integration Server

This setup installs Microsoft Office templates required for the Microsoft Outlook integration server add-on.

Procedure

1. In the *Server Components* window, ensure that the *Server Tools (Installed)* and the *SAP Business One Server (Installed)* checkboxes are inactive. To continue with the Microsoft Outlook integration add-on server installation, select the *Microsoft Outlook Integration Server Add-On* checkbox, and then choose the *Install* button.



2. In the *Welcome* window, choose the *Next* button.
3. In the *Select Destination Folder* window, specify the location where you want to install the Microsoft Outlook Integration Server files.
4. In the *Review Settings* window, review the settings you have made, and then do the following:
 - o To perform the installation, choose the *Next* button.
 - o To change the settings, choose the *Back* button to return to the previous steps.The *Setup Status* window displays the installation program performing the required actions.
5. In the *Complete* window, choose the *Finish* button to exit the wizard.
6. In the *Server Components* installation summary window, choose the *Finish* button.

3.2.2 Performing Client Installations

You can install the client application on every workstation on which you want to run SAP Business One.

As part of the client installation, the SAP Business One Client Agent is installed by default. SAP Business One Client Agent is a Microsoft Windows service that runs in the background with administrator rights and provides the following functionality:

- Saves the configuration parameters that you provide during client installations, for example, the license server address, for future use in possible version updates.

- Facilitates silent updates of the SAP Business One client, add-ons, and third-party add-ons.

Depending on the required configuration, you can decide which optional components to install on each workstation.

The client components include:

- SAP Business One client application and DI API
- Mail and fax services — Installs messaging services that enable sending fax and e-mail messages from SAP Business One.
- Software Development Kit — Installs documentation and samples for the SAP Business One SDK.
- Data Transfer Workbench — Installs a tool for migrating legacy data to SAP Business One.
- Microsoft Outlook integration add-on standalone version — Installs a version of Outlook integration that lets you use this add-on without the SAP Business One client application.

For more information, see [Installing the Microsoft Outlook Integration Component \(Standalone Version\)](#) and [Installing the Integration Framework](#).

Note

Both 32-bit and 64-bit versions are available for all client components except for the SDK. While it is possible to install and run both versions on the same machine running a 64-bit operating system, in order to reduce complexity and avoid potential problems during future upgrades, we strongly recommend that you install only one version of SAP Business One client on the same machine.

Prerequisites

- The installation computer complies with all hardware and software requirements. For information on hardware and software requirements, search for relevant information on sappartneredge.com.
- You have installed Microsoft .NET Framework 4.0. During the installation of the SAP Business One Client, the system checks whether Microsoft .NET Framework 4.0 is installed. If it is not installed yet, you can install it during the client installation process.
- You have installed Microsoft Visual C++ 2005 SP1 Redistributable Package. If it is not installed yet, you can install it during client installation.
- You have installed Microsoft Excel.
- You have installed the SAP Crystal Reports, version for the SAP Business One application so as to be able to use the SAP Business One data source on the client computer. This data source provides SAP Business One tables in a hierarchical tree organized according to the SAP Business One modules.

For information about installing the Crystal Reports version for SAP Business One, see [Installing SAP Crystal Reports, version for the SAP Business One Application](#).

3.2.2.1 Installing the SAP Business One Client

Note

32-bit and 64-bit versions of the SAP Business One client are available. You must install each version separately. You can install and run both versions on the same machine.

Procedure

1. Insert the SAP Business One product DVD into the DVD drive. If the DVD does not launch the installation program, navigate to the DVD root folder, right-click the `Autorun.exe` file, and choose *Run as administrator*. Alternatively, you can install the client application from `... \SAP \SAP Business One Server \B1_SHR \Clients \setup.exe`.

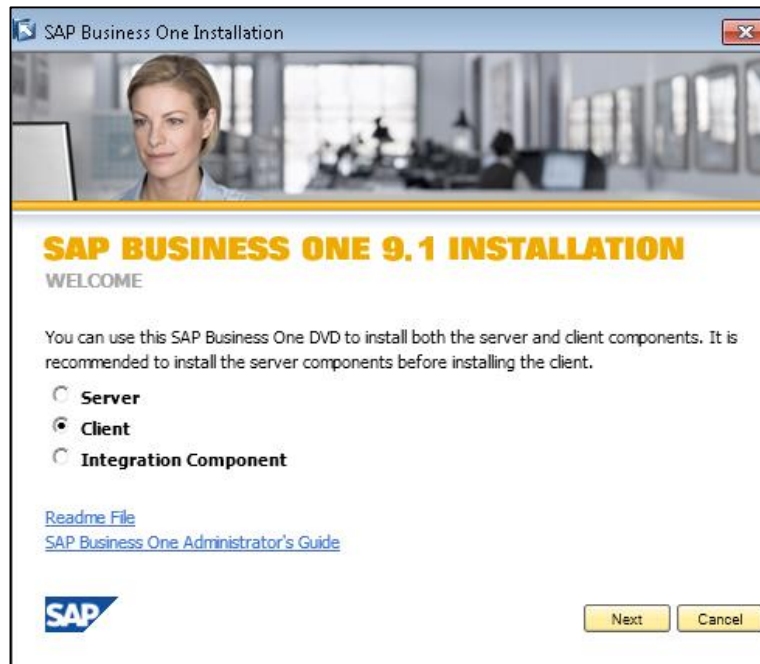
Note

You can install the 64-bit versions of the SAP Business One client and DI API from the `Client.x64` and `B1DIAPI.x64` folders in the `B1_SHR` folder, respectively.

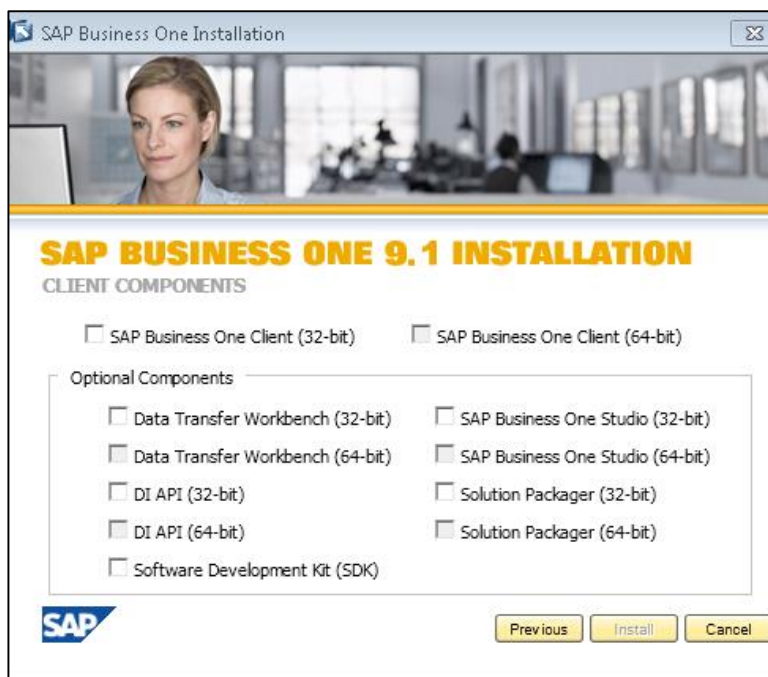
2. In the installation window, select the *Client* radio button.

Caution

To continue with the client installation, ensure that the license server is running. For information about starting the license server, see [Configuring the License Manager](#).



3. In the *Client Components* window, select the *SAP Business One Client* checkbox and the optional components you want to install.
Choose the *Install* button.

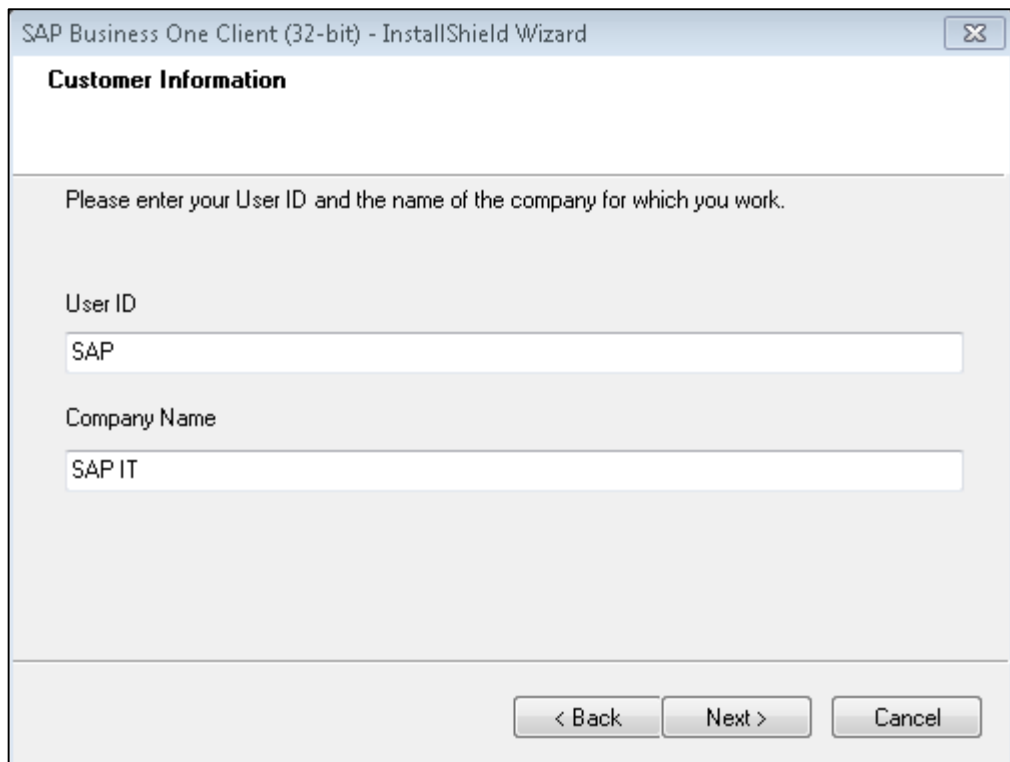


The installation procedure checks whether you have installed Microsoft .NET Framework 4.0 and Microsoft Visual C++ 2005 SP1 Redistributable Package. If these are not installed yet, you can install them by choosing *Install* on the relevant screens.

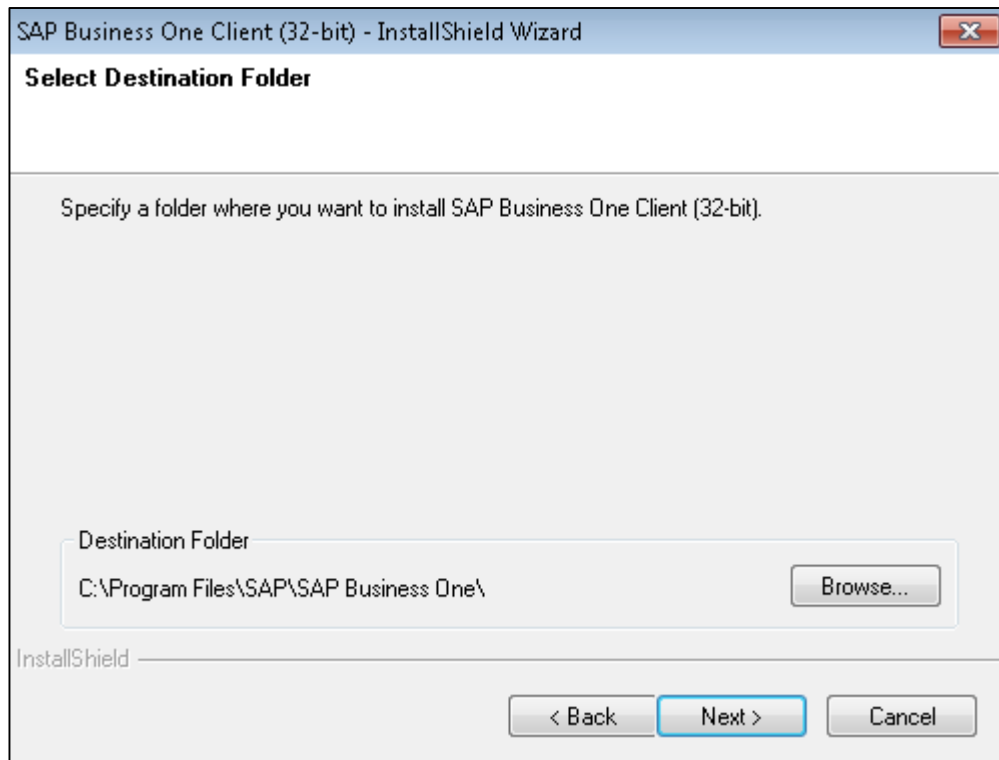
4. For more information about installing the Crystal Reports software on the client computer, see [Installing SAP Crystal Reports, version for the SAP Business One Application](#).

The SAP Business One data sources and Add-ins menu for Crystal Reports are installed after Crystal Reports Viewer or the Crystal Reports version for SAP Business One is installed.

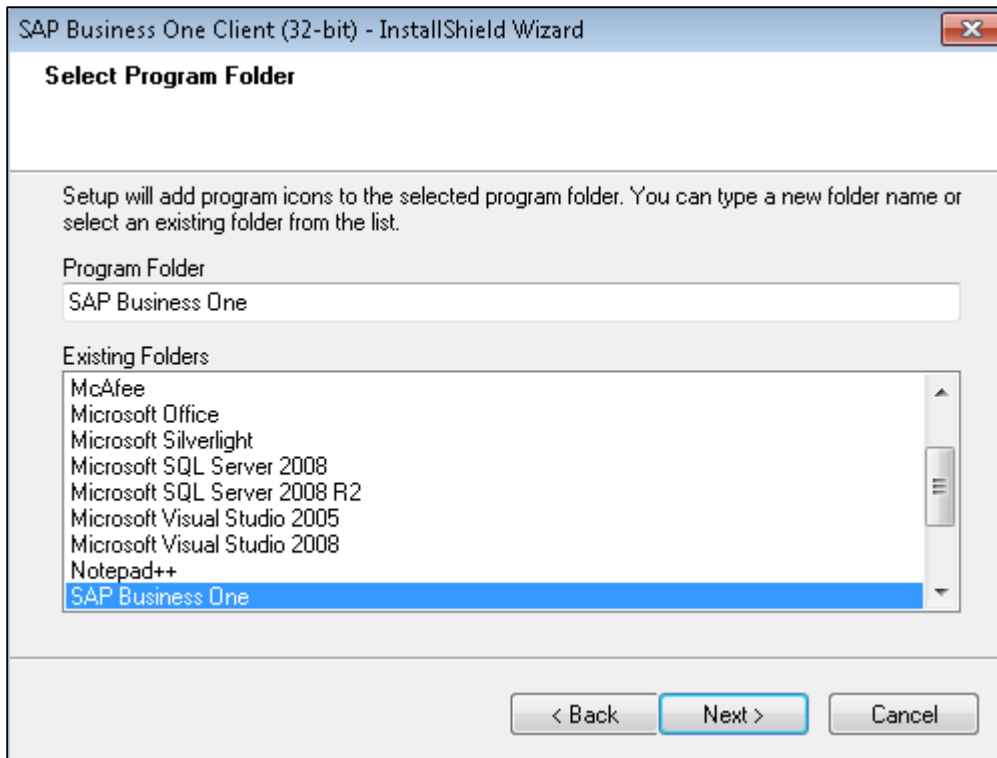
5. In the *Welcome* window, choose the *Next* button.
6. In the *Customer Information* window, specify the user ID and company name.



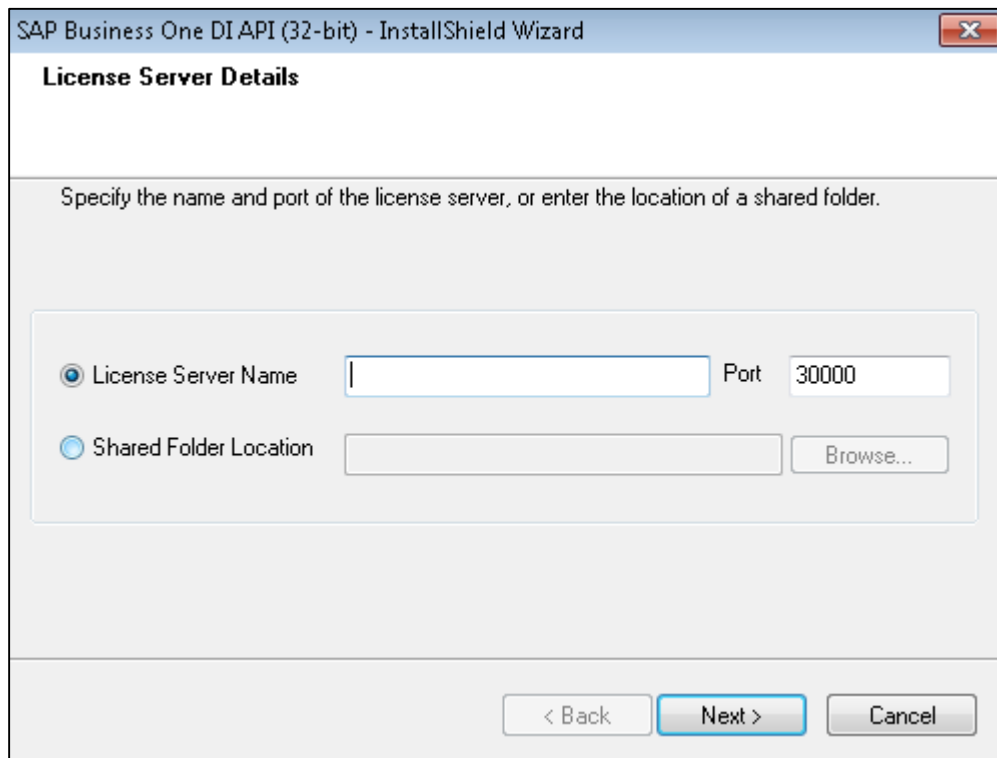
7. In the *Select Destination Folder* window, specify the location where you want to install the client.



8. In the *Select Program Folder* window, ensure the installer displays *SAP Business One* in both fields.



9. In the *License Server Details* window, specify the name and port of the license server.



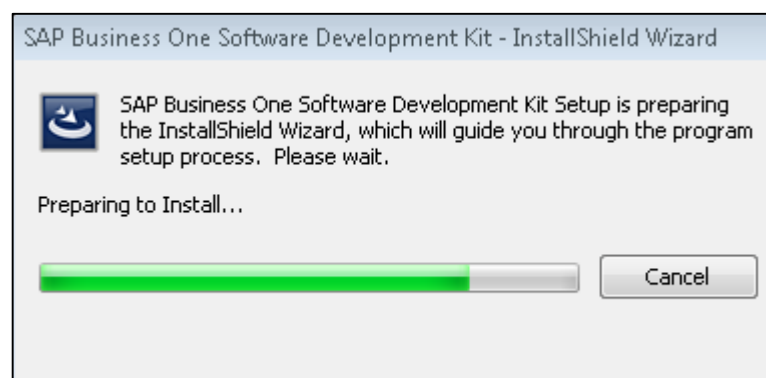
- o To install the client, choose the *Next* button.

- To change the settings, choose the *Back* button to return to the previous steps.
- 10. In the *Setup Status* window, the installation wizard performs the required system actions.
- 11. In the *Complete* window, choose the *Finish* button.

3.2.2.2 Installing SAP Business One Software Development Kit

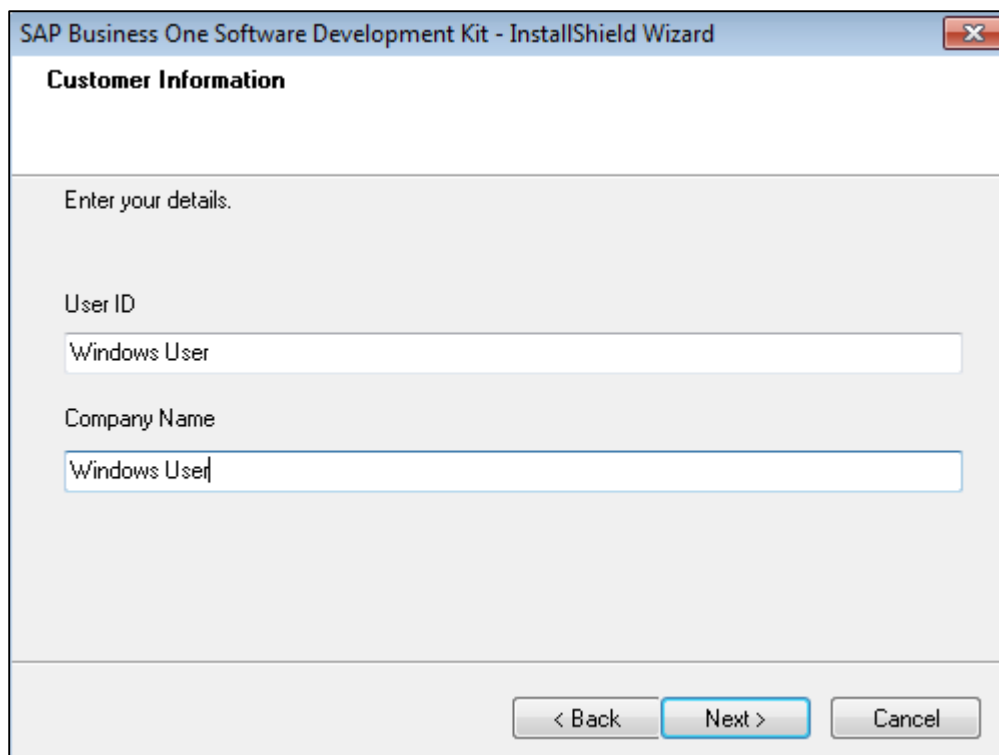
Note

It may take a few minutes until the SDK setup wizard appears.

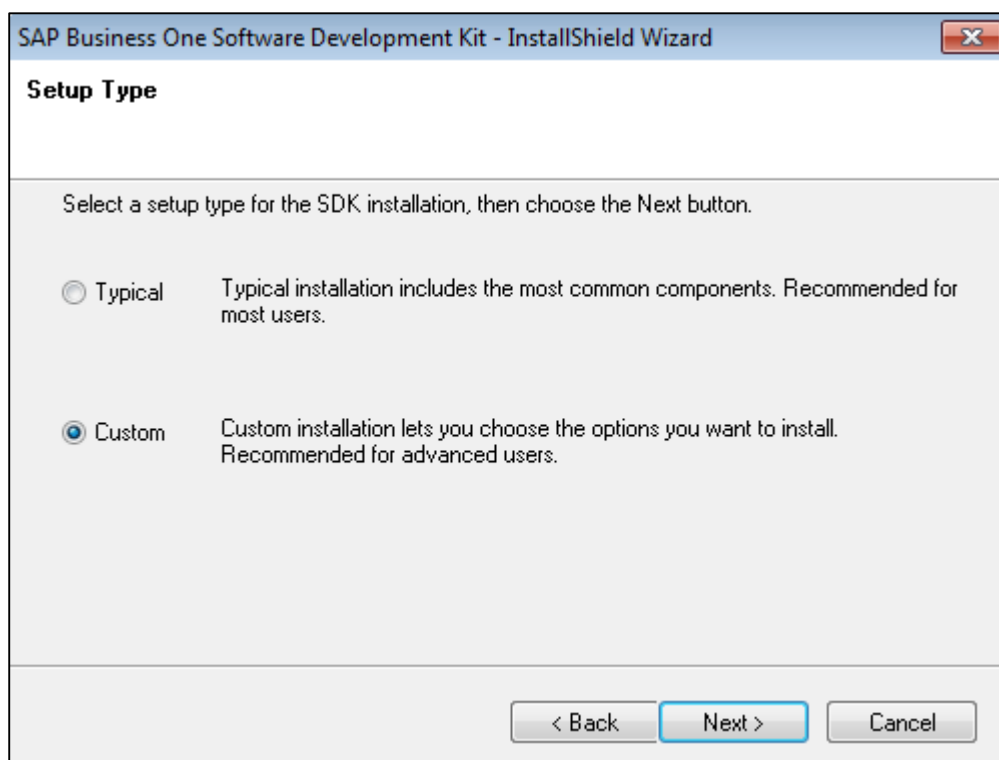


Procedure

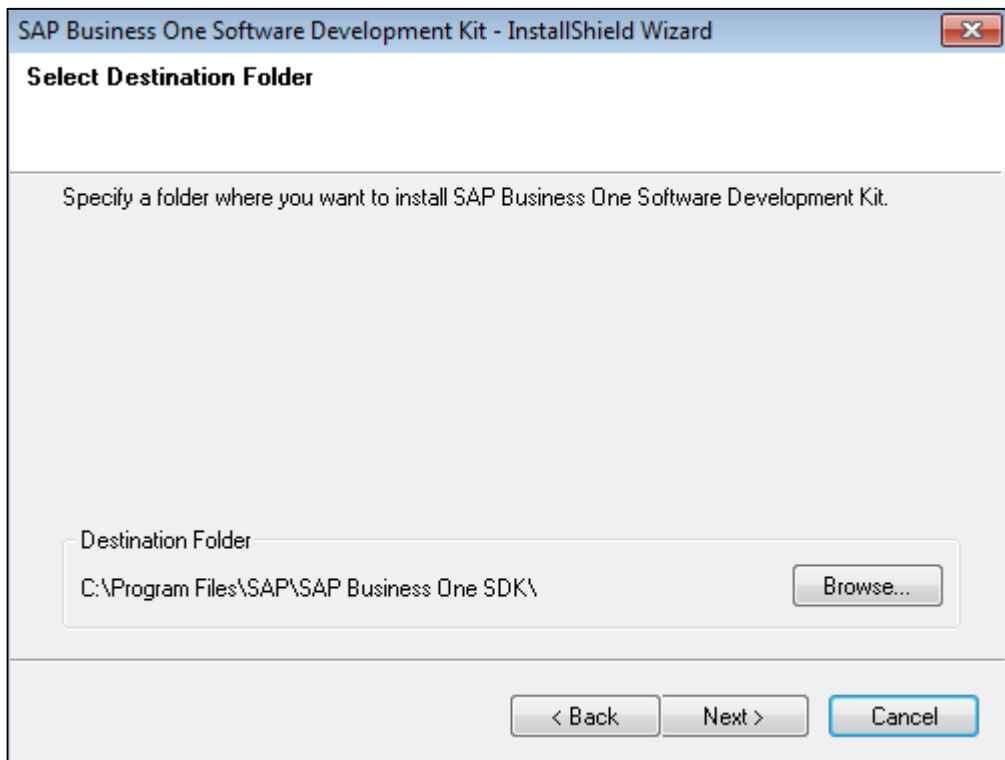
1. In the *Welcome* window, choose the *Next* button.
2. In the *Customer Information* window, specify the user ID and company name.



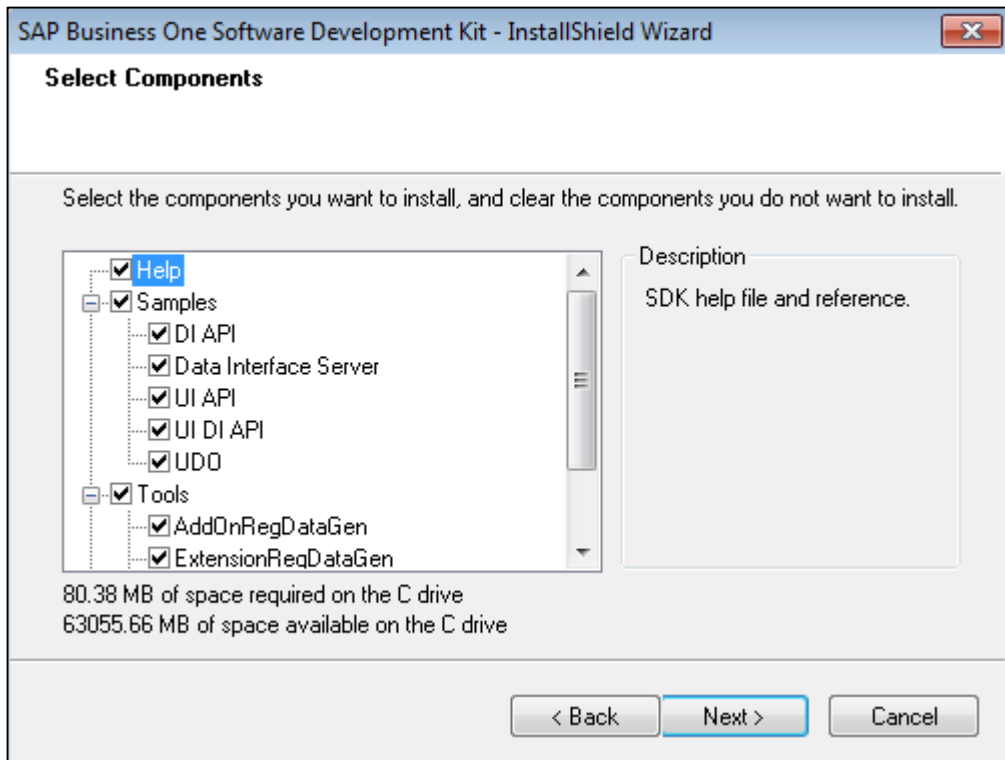
3. In the *Setup Type* window, select one of the following options:
 - o *Typical* – Installs all components (recommended).
 - o *Custom* – Allows you view the installation options so you can choose the components you want to install.



4. In the *Select Destination Folder* window, specify the location where you want to install the SDK.



5. In the *Select Components* window, select the SDK components you want to install.

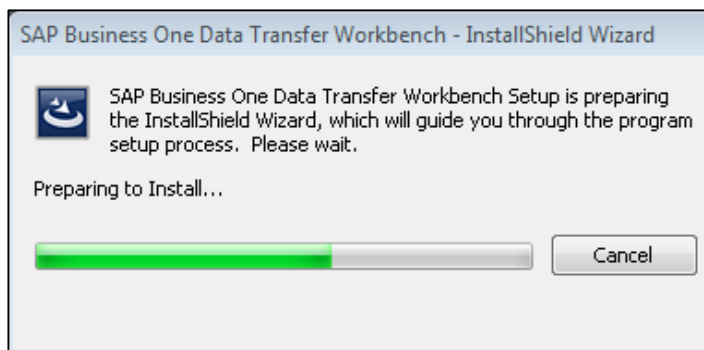


- To install the SDK, choose the *Next* button.
 - To change the settings, choose the *Back* button to return to the previous steps.
6. In the *Setup Status* window, wait for the system to perform the required actions.
 7. In the *Complete* window, choose the *Finish* button.

3.2.2.3 Installing Data Transfer Workbench

i Note

It may take a few minutes until the Data Transfer Workbench setup wizard appears.



Procedure

1. In the *Welcome* window, choose the *Next* button.
2. In the *Select Destination Folder* window, specify the location where you want to install Data Transfer Workbench.
3. In the *Select Program Folder* window, specify the program folder you want to install for Data Transfer Workbench.
4. In the *Review Settings* window, review the settings you have made.
 - To install DTW, choose the *Next* button.
 - To change the settings, choose the *Back* button to return to the previous steps.
5. In the *Complete* window, choose the *Finish* button.

3.2.2.4 Installing the Microsoft Outlook Integration Add-On

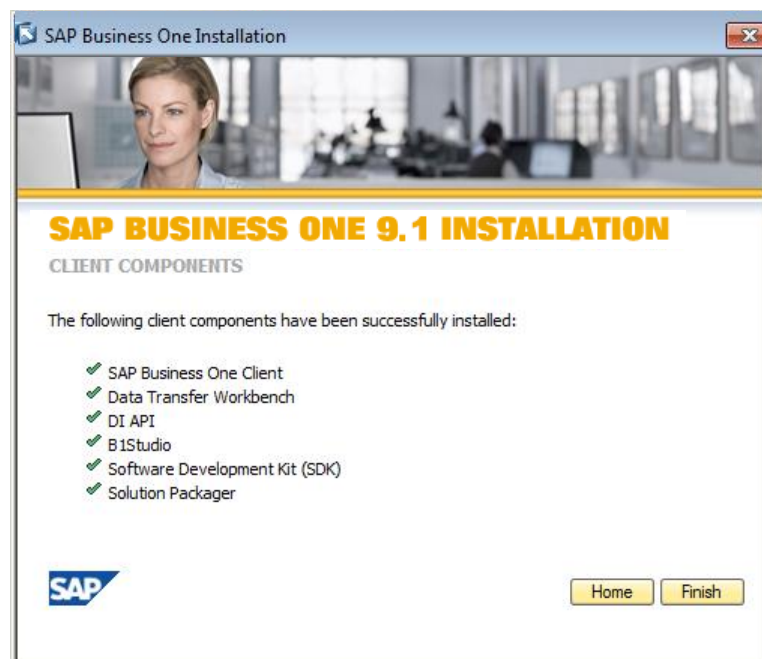
i Note

It may take a few minutes for the setup wizard to launch the installation wizard for the Microsoft Outlook integration add-on.

Procedure

1. In the *Welcome* window, choose the *Next* button.
2. In the *Select Destination Folder* window, specify the location where you want to install the Microsoft Outlook integration add-on.
3. In the *Review Settings* window, review the settings you have made.
 - To perform the installation, choose the *Next* button.
 - To change the settings, choose the *Back* button to return to the previous steps.
4. In the *Complete* window, choose the *Finish* button.

After you have finished installing all the client components, a summary window displays a list of the installed components.



3.2.2.5 Installing Interactive Analysis

If you have installed SAP Business One analytics powered by SAP HANA, you can use Interactive Analysis, which enables you to create reports in Microsoft Excel based on deployed semantic layers.

Prerequisites

- You have installed SAP Business One analytics 1.2 powered by SAP HANA and initialized your company database.
For more information, see the Administrator's Guide for SAP Business One analytics powered by SAP HANA.
- You have installed the following on the client workstation:
 - Microsoft Excel 2010 or 2013

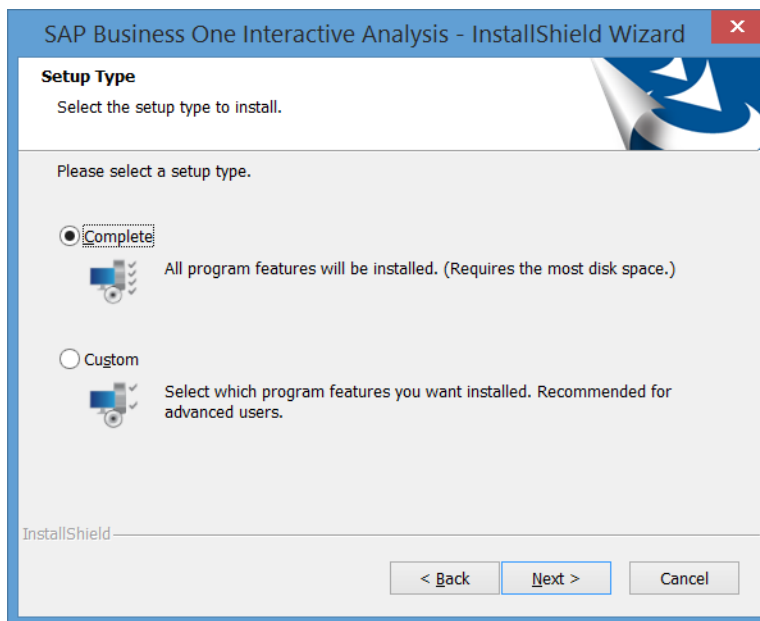
- Microsoft .Net Framework 4.5.2

If it is not installed yet, you can install it during the installation process. However, a restart may be required.

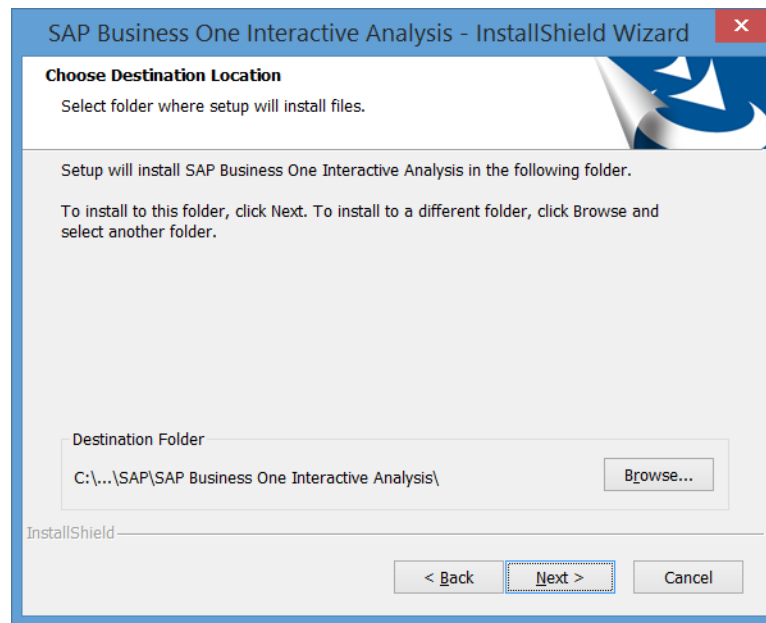
- Microsoft Visual Studio 2010 Tools for Office Runtime

Procedure

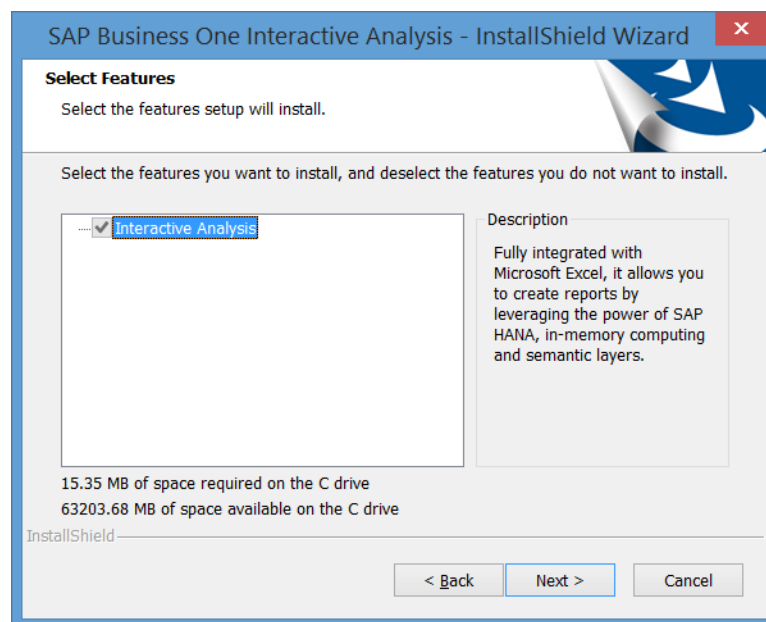
1. In the product package, navigate to `\Packages\Interactive Analysis` and run the `setup.exe` file. The installation wizard for SAP Business One Interactive Analysis is launched.
2. In the welcome window, choose *Next*.
3. In the *Customer Information* window, enter your information and choose *Next*.
4. In the *Setup Type* window, do either of the following:
 - To use the default settings, select the *Complete* radio button and choose *Next*. You proceed directly to the *Ready to Install the Program* window, as described in step 7.
 - To review the default settings and customize some settings, select the *Custom* radio button and choose *Next*.



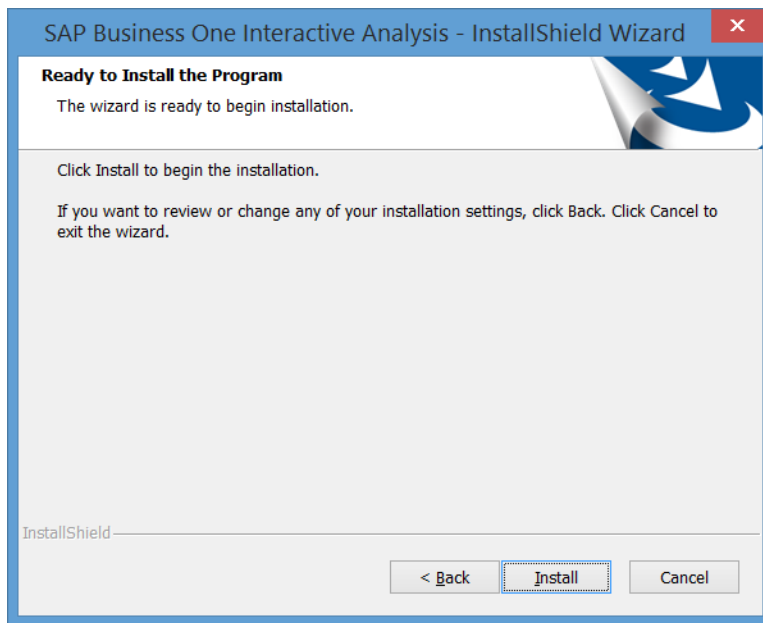
5. If you selected the *Custom* radio button, in the *Choose Destination Location* window, you can choose to set a different installation folder. Choose *Next* to continue.



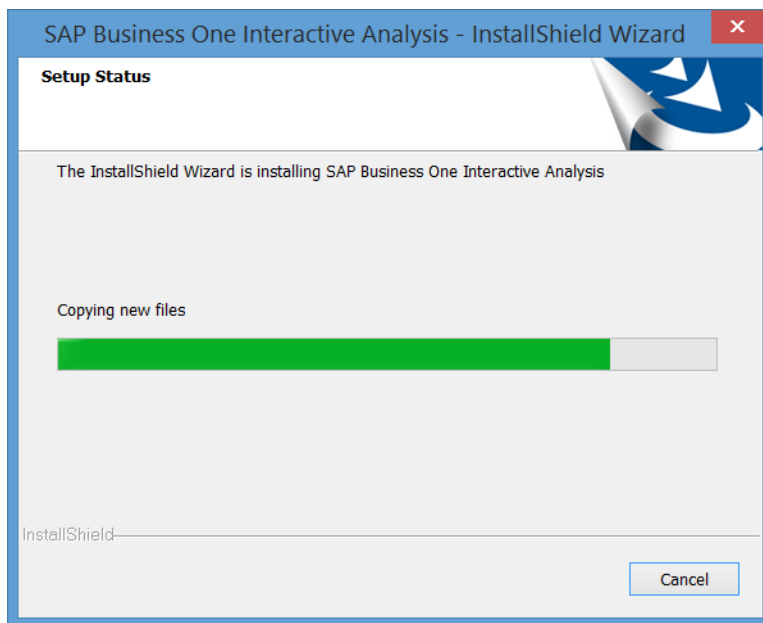
6. In the *Select Features* window, you can review the features to be installed and whether or not there is sufficient disk space for installation. Choose *Next* to continue.



7. In the *Ready to Install the Program* window, choose *Install* to start the installation process.



8. In the *Setup Status* window, wait for the installation to finish.



9. In the *Installation Wizard Complete* window, choose *Finish* to exit the wizard.

Post-requisites

To use Interactive Analysis, you must do the following after the installation:

- In Microsoft Excel, enable all macros and select to trust access to the VBA project object model. For instructions, see the Microsoft online help.

- If the user who installs Interactive Analysis (user A) is different from the user who uses Interactive Analysis (user B), user B must start Interactive Analysis from the Windows menu for the first time. After having done so, user B can start Interactive Analysis directly from within the SAP Business One client or from the Windows menu.
- If you have installed Interactive Analysis to a folder that is not in the %ProgramFiles% directory (default installation folder), you must perform some additional steps before using the function. For instructions, see [Troubleshooting Interactive Analysis Installation](#).

3.2.2.5.1 Troubleshooting Interactive Analysis Installation

Prerequisite:

You have installed Interactive Analysis to a folder that is not in the %ProgramFiles% directory.

Problem:

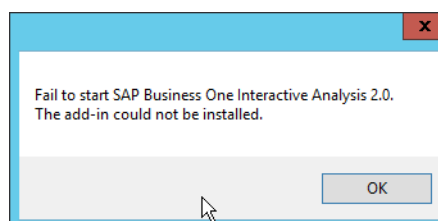
After installing Interactive Analysis, you cannot use Interactive Analysis: the add-in cannot be loaded in Microsoft Excel.

Cause:

The Interactive Analysis add-in was only partly installed.

Solution:

1. Make the Interactive Analysis add-in available in Microsoft Excel
 1. In the Windows menu, choose *SAP Business One Interactive Analysis*.
 2. An error message is displayed and informs of a failed installation.
Ignore the error message by clicking *OK*.

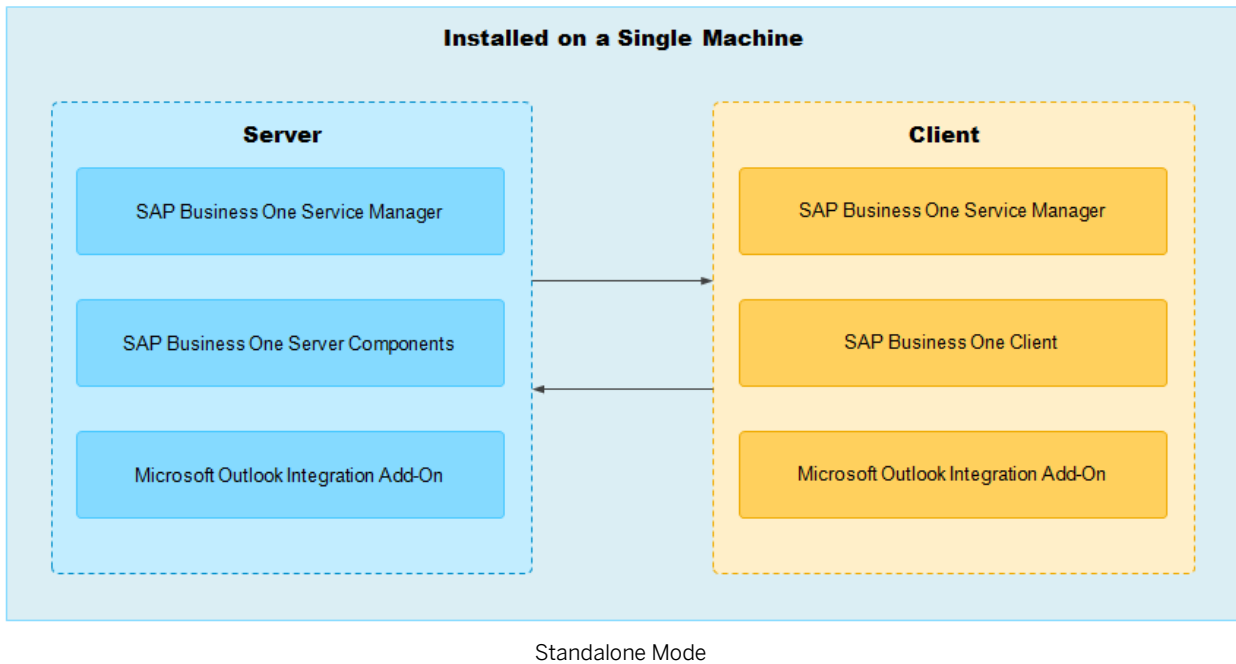


2. In Microsoft Excel, activate the Interactive Analysis COM add-in.
For instructions on how to manage add-ins, see the Microsoft online help.
3. In the Windows menu, choose *SAP Business One Interactive Analysis* again.
This time the installation is successful.

You can now launch Interactive Analysis from within the SAP Business One client or from the Windows menu.

3.3 Installing SAP Business One in Standalone Mode

In this scenario, you can install the SAP Business One server and client on one machine, as shown in the following figure.



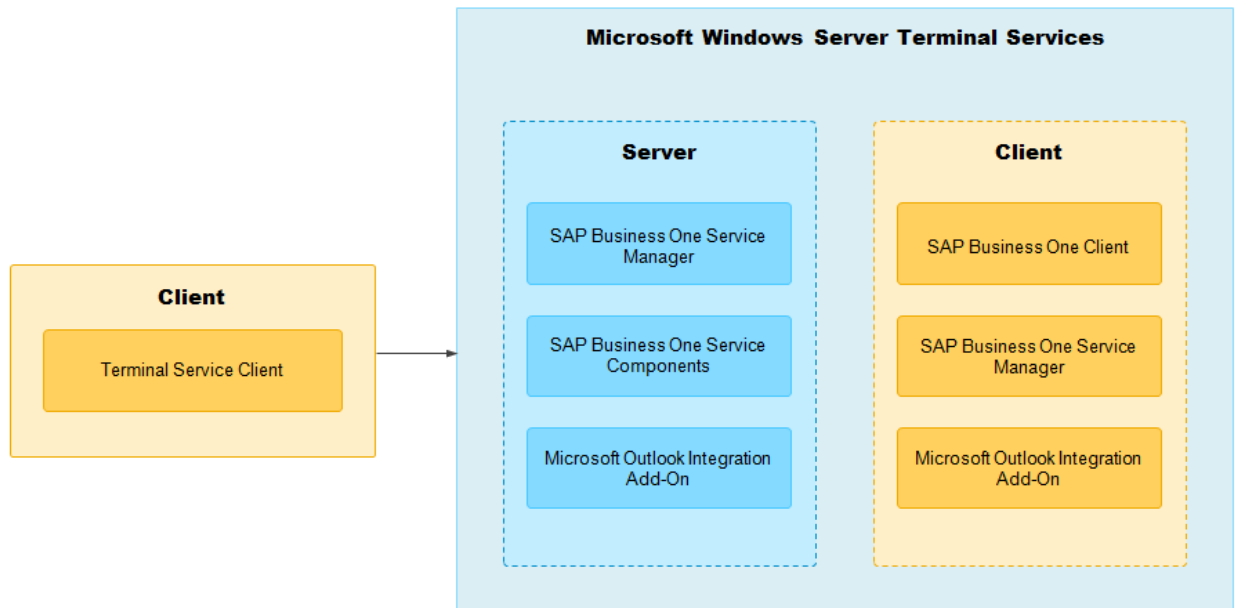
3.3.1 Performing Single Machine Installations

To install the SAP Business One server and client components on one computer, do the following:

1. Perform the installation of the server tools and server components as described in [Installing SAP Business One in Server–Client Mode](#).
2. Perform the installation of the client application and components as described in [Installing SAP Business One in Server–Client Mode](#).
3. Perform the installation of integration framework of SAP Business One as described in [Installing the Integration Framework](#).

3.4 Installing SAP Business One in Remote Mode

In this scenario, you can perform the SAP Business One server and client installation on a remote machine, as shown in the following figure.



Microsoft Windows Server Terminal Landscape

3.4.1 Performing Remote Server Installations

The following example describes the setup of Microsoft Windows Server 2003 Terminal Service for the hosted environment setup.

Prerequisite

- The installation complies with all hardware and software requirements. For information on hardware and software requirements, search for relevant information on sappartneredge.com.

Procedure

To perform the installation of SAP Business One on a remote machine, do the following:

1. Install Microsoft Windows Server Terminal Services:
 1. On the server, in Windows, choose *Start* → *Control Panel* → *Add/Remove Programs*.
 2. In the *Add/Remove Programs* window, to run the windows components wizard, choose *Add/Remove Windows Components*.
 3. In the list of optional components, select *Terminal Services* and *Terminal Services Licensing*.
 4. To install terminal service components, choose the *Next* button.
The wizard verifies whether you want to install the terminal services in Remote Administration mode or in Application Server mode.

Recommendation

Select Application Server mode as it supports an unlimited number of connections. In addition, you should keep the default installation values.

5. In Application Server mode, install the software in Windows by choosing *Start* → *Control Panel* → *Add/Remove Programs* → *Add New Programs*.
6. The setup wizard prompts you to insert Microsoft Windows Server 2003 installation media.
After copying files, the wizard informs you that the terminal services have been installed and that you need to reboot the server.
2. Install the following in sequence, as described in the section *Installing SAP Business One in Server-Client Mode*.
 1. SAP Business One server tools
 2. SAP Business One server components
 3. SAP Business One client
 4. The integration framework of SAP Business One
3. Change the `sa` logon password and create an alternative user.
For security reasons, you should change the `sa` logon password right after installing SAP Business One, or create a user to substitute for the `sa` user, which is the safest option. For more information, see *Database Authentication*.

3.4.2 Performing Client Installations

You can create the client setup disks from the *Terminal Server-Client* menu on the terminal server.

Procedure

To install the terminal services client, do the following:

1. Run the setup program on your workstation.
2. In Windows, choose *Start* → *All Programs* → *Terminal Server Client* and select *Client Connection Wizard*.
3. When the wizard appears, specify the name of the terminal server and a description for the connection.

Note

If you experience problems entering an actual server name in the *Server Name* field, specify the server IP address.

Recommendation

If you manage multiple servers on one workstation, specifying the server name in the *Description* field makes it easy to identify each connection.

3.5 Installing the Microsoft Outlook Integration Component (Standalone Version)

The Microsoft Outlook integration component enables you to exchange and share data between SAP Business One and Microsoft Outlook. This component is a standalone version that does not require the SAP Business One client to be installed on the same computer.

If you want to use the Outlook integration features on the machine on which you have installed the SAP Business One client you do not need to install the Microsoft Outlook integration component. Instead, you can choose to install the Outlook integration add-on. For more information, see [Assigning SAP Business One Add-Ons](#).

Note

Both 32-bit and 64-bit versions of the Microsoft Outlook integration component are available. You can install and run both versions on the same machine, but you must install each version separately.

Prerequisites

- You have installed the SAP Business One DI API with the same system type as that of the Outlook integration component. For example, install the 32-bit Outlook integration component for the 32-bit Microsoft Outlook.
- You have installed Microsoft Outlook with the same operating system type as that of the Outlook integration component. For example, install the 32-bit Outlook integration component for the 32-bit Microsoft Outlook.
- You have assigned the following to the SAP Business One user account which is used for the connection:
 - The Microsoft Outlook integration add-on in the SAP Business One client
 - The SAP AddOns license
- You have started the Microsoft Outlook integration add-on in the company at least once. This ensures the necessary user-defined tables are added to the company database.

Procedure

1. Insert the SAP Business One product DVD in the DVD drive.
The installation program appears automatically. If the DVD does not launch the installation program, navigate to the DVD root folder, right-click the `autorun.exe` file, and choose *Run as administrator*.
2. In the installation window, select the *Integration Component* radio button and choose the *Next* button.
3. In the *Integration Component* window, select the *Outlook Integration Standalone Version* checkbox and choose the *Install* button.
4. In the welcome window, choose the *Next* button.
5. In the *Select Destination Folder* window, specify the folder in which you want to install the Microsoft Outlook integration component and choose the *Next* button.
6. In the *Review Settings* window, review your settings and proceed as follows:
 - To continue, choose the *Next* button.
 - To change the settings, choose the *Back* button.
7. In the *Setup Status* window, wait for the system to perform the required actions.
8. In the *Complete* window, choose the *Finish* button.

3.6 Installing the Integration Framework

i Note

As of PL01, you can optionally run the integration framework message log using a database table for indexed access. The installation creates the `MSGLOG` table in the `IFSERV` database. To access the database table, the installation creates the `IFDBUSR` user. The `IFDBUSR` has the permission to select, update, insert, and delete records in the `MSGLOG` database table. The installation creates the initial `yyyyMMdd` password. `yyyy` is the current year, `MM`, the current month (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec), and `dd` the current day of the month.

We recommend changing the password after installation. To change the password, in the integration framework choose *SLD* and open the *BI Server* entry. In the *Connectivity List (Active)* section, change the value of the *password* field.

The integration framework of SAP Business One includes the following components:

- Integration Framework Server
- SAP Business One EventSender
- SAP Business One DI-Proxy
- [Optional] Integration packages:
 - Mobile Solution
For more information about mobile scenarios, search for the user guide for the SAP Business Mobile app on sappartneredge.com. Note that there are different user guides for the iOS and the Android versions.
 - DATEV HR (Germany only)
For more information about DATEV HR, see *Leitfaden zur Personalabrechnung mit DATEV HR (German only)* in the `... \Documentation \B1 Integration Component` folder of the product DVD.
 - Electronic Invoices (Mexico only)
For more information, see SAP Note [1580236](#).
 - Support for Document Approval (Portuguese only)
For more information, see SAP Note [1886319](#).
 - Support for SAP Customer Checkout
For more information, see the *Integration with SAP Customer Checkout* guide. To display the guide in the integration framework, choose *Scenarios → Control* and for `sap.CustomerCheckout`, choose the *Docu* button.

Installing the integration framework of SAP Business One is not mandatory, except if you want to use SAP Business One with the integration packages, for example, to use the Mobile solution.

3.6.1.1 Enabling the TCP/IP Protocol for Database Servers

If you are using the Microsoft SQL Server, enable the TCP/IP protocol. By default, it is disabled.

Procedure

Enable the TCP/IP protocol in the Microsoft SQL Server:

1. In Windows, choose *Start → All Programs → Microsoft SQL Server → Configuration Tools → SQL Server Configuration Manager*.
2. In the *SQL Server Configuration Manager* window, expand *SQL Server Network Configuration*, and then choose *Protocols for MSSQLSERVER*.
3. Right-click *TCP/IP*, and then choose *Enable*.
4. Go to *SQL Server Services*, right-click *SQL Server (MSSQLSERVER)*, and then choose *Restart*.

MSSQLSERVER is the default instance of MSSQL. Note that named instances have different names.

Set the IP port in Microsoft SQL Server:

1. In Windows, choose *Start → All Programs → Microsoft SQL Server → Configuration Tools → SQL Server Configuration Manager*.
2. In the *SQL Server Configuration Manager* window, expand *SQL Server Network Configuration*, and then choose *Protocols for <instance_name>*.
3. To open *TCP/IP Properties*, double-click *TCP/IP*, or right-click *TCP/IP*, and then select *Properties*.
4. On the *IP Addresses* tab, in the *IPALL* area, leave the *TCP Dynamics Ports* field blank and enter, for example, **1442**, in the *TCP Port* field.

Note

If you are using SQL Server named instances, ensure that each instance uses a different TCP/IP port and during the installation of the integration framework, enter the server name as **<server name>** rather than the **<server name>\instance name**.

3.6.1.2 Performing Installations

Prerequisites

- The installation complies with all hardware and software requirements for SAP Business One and the integration framework. For more information, search for the relevant information on sappartneredge.com.
- You have installed the corresponding version of SAP Business One DI API. Depending on your system type this is either the 32-bit or 64-bit version. The integration framework supports both versions.
- You have not yet configured a default Tomcat installation on your machine; otherwise, you cannot proceed with the installation. During the installation process, the setup checks for the following registry entries, and if they are found, the setup terminates:
 - 32-bit systems
`HKEY_LOCAL_MACHINE\SOFTWARE\Apache Software Foundation\Procrun 2.0\Tomcat6`
 - 64-bit systems
`HKEY_LOCAL_MACHINE\SOFTWARE Wow6432Node\Apache Software Foundation\Procrun2.0\Tomcat6`
- To use dashboards, you have installed Adobe Flash Player 10.0 or later on the client workstations.

Procedure

1. Insert the SAP Business One product DVD in the DVD drive.

The installation program appears automatically. If the DVD does not launch the installation program, navigate to the DVD root folder and double-click the `AutoRun.exe` file. If you are using Windows 7 or Windows Server 2008, right-click the `setup.exe` file and choose *Run as administrator*.

2. In the installation window, select the *Integration Component* radio button and choose the *Next* button.
3. In the *Integration Component* window, select the *Integration Solution Components* checkbox and choose the *Install* button.
4. In the InstallShield wizard introduction window, read the instructions and choose the *Next* button.
5. In the *Choose Installation Folder* window, specify the folder where you want to install the integration framework and choose the *Next* button.

6. In the *Choose Installation Components* window, choose the **typical** installation option.

To run the integration framework together with SAP Business One, you need all components.

7. In the *Change Admin Password* window, enter and confirm a new password for the integration server administrator account (`Bliadmin`).

The new password must contain at least eight characters.

8. In the *Enter Database Information* window, specify the following data, and then choose the *Next* button:

- o The *On Premise* option is selected. Do not change it.
- o *Database Type* – From the dropdown list, select Microsoft SQL Server version.
- o *Database Server* – Enter the name of the database server. To specify a Microsoft SQL Server instance, enter <host name>\<instance name> and leave the Database Port field empty.
- o *Database Port* – Enter the port number. The default port is 1433. Named Microsoft SQL Server instances support both static and dynamic ports.
- o *Database Name* – Enter the name of the integration framework database. The default database name is `IFSERV`.
- o *Database User Name* – Enter the user name of a database administrator account.
- o *Database Password* – Enter the password for the database administrator account.

Setup checks the database connection and displays the following additional fields:

- o *Bli User Name* – Enter the user name of an SAP Business One account to use with the integration framework. The default account is the `Bli` account, which is the technical user that is reserved for use with SAP Business One integration solutions.



Recommendation

Use the default `Bli` account, otherwise extra configuration effort is required.

- o *Bli Password* – Enter the password for the SAP Business One account to use with the integration framework.



Note

A `Bli` account is created for every new company database, but you must ensure that the password of this user is properly initialized. To do this, you must set the password in SAP Business One, if you have not done so already.

- *B1DI API* – Click the checkbox of the DI API version you want to use for the integration framework. The program enables checkboxes for the versions installed on your machine. If both versions have been installed, we recommend using the 64-bit version.
 - *B1DI JCO Path* – The program displays the location of the SAP Business One DI API program file.
9. After you have set the company database information, do the following:
- By default, the *On Premise* option is selected. Do not change it.
 - To activate support for the SAP Business One mobile solution, select the *Activate support for SAP Business One Mobile solution* checkbox.
 - To activate payroll support (DATEV/HR package, Germany only), select the *Activate payroll support (Germany only)* checkbox, and then set the destination folder for incoming files and outgoing files.
 - To activate support for electronic invoices (Mexico only), select the *Activate support for electronic invoices (Mexico only)* checkbox.
 - To activate support for document approval (Portuguese only), select the *Activate support for Document Approval (Portuguese only)* checkbox.
 - To activate support for SAP Customer Checkout, select the *Activate Support for SAP Customer Checkout* checkbox.
 - To activate integration with SAP Anywhere, select the *Activate Support for SAP Anywhere* checkbox.
The integration requires a database. Enter another name or use the default name.
10. The *Pre-Installation Summary* window displays an overview of the installation settings.
- To perform the installation, choose the *Next* button.
 - To change the settings, choose the *Back* button to return to the previous steps.
11. In the *Installation Complete* window, choose the *Done* button.

Result

You can display installation log files in the ..._SAP Business One Integration Installation\Log folder.

Note

If any issues or errors arose during installation, you can start the setup again; however, this causes the setup to run in repair mode. Repair mode repairs the components, but leaves the packages, system settings and the B1admin user password unchanged.

After the installation process is complete, the application automatically starts the following services:

- SAP Business One Integration Service
- SAP Business One EventSender Service
- SAP Business One DI Proxy Service
- SAP Business One DI Proxy Service Monitor

4 Installing SAP Crystal Reports, version for the SAP Business One Application

SAP Crystal Reports, version for the SAP Business One application provides integration with the SAP Crystal Reports software, which allows you to create, view, and manage reports and layouts.

SAP Business One 9.1 supports the following versions of SAP Crystal Reports, version for the SAP Business One application:

- 2011
- 2013

The 2013 version is the recommended version, which contains more advanced features and is compatible with more advanced platforms, for example, Microsoft Windows Server 2012 and Microsoft Windows 8. If you already have SAP Crystal Reports 2011 or 2013 installed on your computer, first uninstall the software and then perform the installation operations below.

Note

The operating system of the computer on which you want to install SAP Crystal Reports for SAP Business One must be Windows 7 SP1 or higher.

To use SAP Crystal Reports, version for the SAP Business One application, perform the following operations:

1. [Install SAP Crystal Reports 2013, version for the SAP Business One application](#)
2. [Run the SAP Crystal Reports integration script](#)

This step ensures that SAP Business One data sources are available in the application.

For more information about working with SAP Crystal Reports, version for the SAP Business One application, see *How to Work with SAP Crystal Reports in SAP Business One* in the documentation area of SAP Business One Customer Portal at <http://service.sap.com/smb/sbocustomer/documentation>.

4.1 Installing SAP Crystal Reports, version for the SAP Business One application

Note

If you have SAP Crystal Reports 2011 or 2013 installed on the computer where you want to install SAP Crystal Reports, version for the SAP Business One application, you are prompted to uninstall it during the installation procedure.

Prerequisite

You have downloaded the installation package of SAP Crystal Reports 2011 or 2013, version for the SAP Business One application from the SAP Business One Software Download Center on SAP Support Portal at <https://support.sap.com/b1software>.

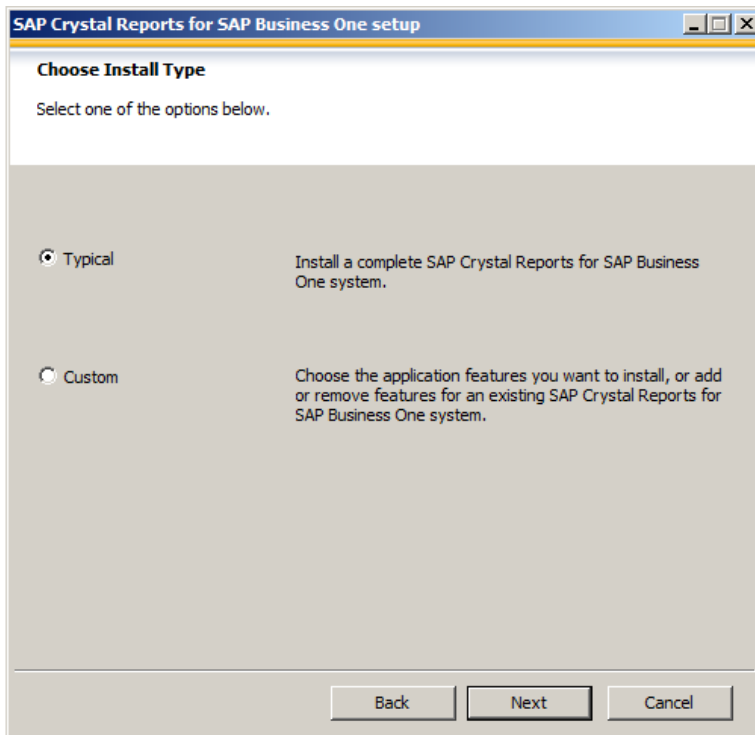
Procedure

1. In the installation package, double-click the `setup.exe` file. If you are using Windows 7, Windows Server 2008, or Windows 8, right-click the `setup.exe` file and choose *Run as administrator*.
2. In the *SAP Crystal Reports for SAP Business One setup* window, select a setup language and choose the *OK* button.
3. The *Prerequisites check* window appears. If you have fulfilled all critical prerequisites, you can continue with the installation; otherwise, follow the instructions in the wizard to resolve any issues before proceeding.
4. In the welcome window, choose the *Next* button.
5. In the *License Agreement* window, read the software license agreement, select the radio button *I accept the License Agreement*, and then choose the *Next* button.
6. In the *Specify the Destination Folder* window, specify a folder where you want to install the software.
7. In the *Choose Language Packs* window, select the checkboxes of the languages you want to install and choose the *Next* button.
8. In the *Choose Install Type* window, select one of the following installation types and choose the *Next* button:
 - o *Typical*
Installs all application features. For a typical installation, proceed to step 9.
 - o *Custom*
Allows you to do the following:
 - o Select features that you want to install.

Note

If you have installed SAP Crystal Reports, version for the SAP Business One application, you can select the *Custom* install type to add or remove features.

- o Select whether or not you want to receive the web update service
- o Check the disk cost of the installation



i Note

If you have done one of the following, the [Browse](#) button is inactive because a destination folder already exists:

- You have already installed SAP Business One; that is, before installing SAP Crystal Reports, version for the SAP Business One application.
- You have already installed the SAP Crystal Reports viewer. For example, this may be installed automatically when you install the SAP Business One client application.

9. In the [Select Features](#) window, select the features you would like to install and choose the [Next](#) button.

The icons in the feature tree indicate whether the feature and its sub-features will be installed, as follows:

- A white icon means that the feature and all its sub-features will be installed.
- A shaded icon means that the feature and some of its sub-features will be installed.
- A yellow 1 means that the feature will be installed when required (installed on demand).
- A red X means that the feature or sub-feature is either unavailable or will not be installed.

SAP Crystal Reports, version for the SAP Business One application uses an "install on-demand" technology for some of its features. As a result, the first time a particular feature is used after being installed, there may be an extra wait for the "install on-demand" to complete. This behavior will affect new installations only once and will not occur when features are restarted.

To check how much disk space is required for the installation of selected features, choose the [Disk Cost](#) button.

10. In the [Web Update Service Option](#) window, you can disable the web update service by selecting the [Disable Web Update Service](#) checkbox. We recommend, however, that you enable the update service to stay aware of updates that can help you enhance your SAP Crystal Reports.

Choose the [Next](#) button to proceed.

11. In the [Start Installation](#) window, choose the [Next](#) button.

The [Crystal Reports for SAP Business One Setup](#) window appears.

12. When the installation is complete, the *Success* window appears. To exit the installation wizard, choose the *Finish* button.

4.2 Running the Integration Package Script

To make the SAP Business One data sources and the *Add-ins* menu available in the SAP Crystal Reports designer, run the SAP Business One Crystal Reports integration script. The SAP Business One tables are organized according to the modules in the SAP Business One *Main Menu*.

Procedure

1. In the SAP Business One product or upgrade package, locate the `...Packages\SAP CRAddin Installation` folder and double-click the `SAP Business One Crystal Report Integration Package.exe` file. If you are using Windows 7 or Windows Server 2008, right-click the `setup.exe` file and choose *Run as administrator*.
2. The integration package has been installed successfully. To exit the wizard, choose the *Finish* button.

4.3 Updates and Patches for SAP Crystal Reports, version for the SAP Business One application

Caution

Since you are using SAP Business One 9.0 together with an Original Equipment Manufacturer (OEM) version of SAP Crystal Reports, do not apply standard SAP Crystal Reports file or product updates (including Hot Fixes and Service Packs) as they are not designed to work with OEM versions of SAP Crystal Reports.

File or product updates are provided in the following ways:

- Integrated runtime version: distributed together with SAP Business One
- Designer: provided separately via a dedicated folder location in the SAP Business One Software Download Center on SAP Support Portal at <https://support.sap.com/b1software>.

Note

If you are using both the integrated runtime version and the designer, make sure that they are either on the same patch or Service Pack level or that the Report Designer is on an earlier patch or Service Pack level than the Runtime version. If not, inconsistencies may occur.

To find out if you are using an OEM version of SAP Crystal Reports, start the designer and look for either of these two indicators:

- The title bar of the designer indicates SAP Crystal Reports for a certain product (such as *SAP Crystal Reports for SAP Business One*).

-
- In the *Help* menu, choose *About* (for example, *About Crystal Reports*). The technical support phone number in the *About Crystal Reports* box is not listed as *(604) 669 8379*.

If either of these indicators exists in your product, you are using an OEM version of SAP Crystal Reports.

5 Uninstalling SAP Business One

When you uninstall SAP Business One, you remove the application and all its components.

Note

You must uninstall all SAP Business One add-ons before uninstalling the SAP Business One server and client components.

Note

To only upgrade the integration framework, run the `setup.exe` file under `\Packages\B1 Integration Component\Technology\` in the product package.

Procedure

1. Uninstall SAP Business One add-ons:

1. From the SAP Business One *Main Menu*, choose *Administration* → *Add-Ons* → *Add-On Administration*. The *Add-On Administration* window appears.
2. On the *Company Preferences* tab, under *Company Assigned Add-Ons*, select the add-ons you want to remove.
3. Choose the arrow button between the two panels. This removes the add-ons from the list.
4. In the *Available Add-Ons* list, select the add-ons you want to remove.
5. Choose the *Remove Add-On* button, and then choose the *Update* button.

SAP Business One automatically removes the add-ons that you have uninstalled the next time you start the SAP Business One application from any workstation that is connected to the server.

Note

You can move XL Reporter to the *Available Add-Ons* panel but you cannot remove XL Reporter in the *Add-On Administration* window. The *Remove Add-On* button is disabled for XL Reporter.

2. Uninstall the server and client components:

1. In Windows, choose *Start* → *Control Panel* → *Programs and Features*.
2. In the *Programs and Features* window, select the following items one at a time, and choose the *Uninstall/Change* button after each selection:
 - SAP Business One Server Tools
 - SAP Business One Client
 - SAP Business One Server
 - Data Transfer Workbench
 - SAP Business One SDK

3. Remove DI API:

- If you installed DI API as part of the SAP Business One client installation, the system removes the DI API when you uninstall the SAP Business One client.

- If you installed DI API using the manual setup program in the ...\\B1_SHR\\B1DIAPI folder, you must remove it by selecting SAP Business One DI API in the *Programs and Features* window, and then choosing the *Uninstall/Change* button.

Result

SAP Business One entries no longer appear in the Programs menu and any shortcuts that you may have on the Microsoft Windows desktop are removed.

You can now do the following:

- Manually delete the SAP Business One folders in Microsoft Windows Explorer.
- Remove SAP Business One databases using your database management application.

5.1 Uninstalling SAP Business One Client Agent

To uninstall SAP Business One Client Agent, in the *Programs and Features* window, select SAP Business One Client Agent and choose the *Uninstall/Change* button.

5.2 Uninstalling the Integration Framework of SAP Business One

To uninstall the integration framework, use the *Change SAP Business One Integration* program. With this program you can add or remove features, repair the installation or uninstall the integration framework.

Prerequisites

- To disable further event creation for the company databases in SAP Business One, run the event sender setup and in step 4, deselect the company databases.
- You have administrative rights on the PC where you uninstall the integration framework.
- You have made a backup of the database of the integration framework.
- You have made a backup of the *B1iXcellerator* folder.

To find the folder select *IntegrationServer* → *Tomcat* → *webapps* → *B1iXcellerator*.

Procedure

1. Choose *Start* → *All programs* → *Integration solution for SAP Business One* → *Change SAP Business One Integration*.

The *SAP Business One Integration Wizard Introduction* window opens.

2. In the *Maintenance Mode* window select *Uninstall Product* and choose *Next*.

The system notifies you that it uninstalls the integration framework.

-
3. Choose *Uninstall*.

The system uninstalls your installation.

4. To finish the procedure, choose the *Done* button.

Result

The program uninstalls the integration framework, but it does not remove the database. Remove it separately.

6 Upgrading SAP Business One

To upgrade your SAP Business One application to version 9.1 and run it successfully, you must do the following:

- Upgrade your SAP Business One successfully to 9.1
- Update the system information in the system data maintenance area:
 - Partners: On the SAP Business One Support area on sappartneredge.com, in the *Quick Links* area, choose *System Data Maintenance*.
 - Customers: On the SAP Business One Customer Portal at <http://service.sap.com/smb/sbocustomer>, in the left-hand navigation bar, choose *System Data Maintenance*.
- Import the 9.1 license file

For the latest information about upgrade issues that may not appear in this guide, see SAP Note [2004987](#).

If you are using the intercompany integration solution for SAP Business One, make sure the intercompany version is compatible with this SAP Business One patch level as specified in SAP note [1844555](#). You may need to upgrade the intercompany version as well.

Note

If your SAP Business One is of a hotfix version, we strongly recommend that you upgrade to the next regular patch once it is available, as hotfixes are intended only as temporary solutions.

To upgrade to a new minor or major release, you must upgrade to a regular patch first, and then you can proceed with the upgrade to the new release.

6.1 Upgrade Methods

You can use either of the following upgrade methods to upgrade a previous SAP Business One version:

- Using the SAP Business One upgrade wizard
You can use the upgrade wizard to guide you through the process of upgrading SAP Business One to a higher major version, a higher minor version, a support package, or a new patch above the SAP Business One 9.1 release.
- If any of the upgrade steps fail, you can use the restoration mechanism to reverse all the database changes made to your SAP Business One landscape by the wizard, and return to the SAP Business One version before the upgrade.

Caution

To detect any errors or warnings that may arise in the SAP Business One upgrade process, it is mandatory that you perform a trial run of the SAP Business One upgrade wizard up to and including step 12 as described in the procedure below. The results of the pre-upgrade tests in the upgrade wizard indicate where you may need to correct any errors before performing the actual upgrade. If no issues are found, you may continue with the upgrade procedure.

- Silent upgrade
- You can upgrade SAP Business One in a silent mode using command line arguments.

- Directly from the upgrade package folders

You can use the upgrade files in the upgrade package to upgrade the individual SAP Business One components, although this method is not recommended and only for advanced users.

 **Caution**

If you want to upgrade the SAP Business One server or company database, you can run the upgrade wizard ONLY on the SAP Business One server.

 **Caution**

The upgrade files listed in the upgrade package do not constitute a complete set of the required upgrade files. They are provided for advanced users only.

For more information, see the Administrator's Guide of previous versions in SAP Business One Customer Portal at <http://service.sap.com/smb/sbocustomer/documentation>.

 **Note**

When you upgrade SAP Business One, your previous SBO Mailer e-mail signature settings are automatically copied to the common database and appear on the *Common E-Mail Signature* tab of the *E-Mail Settings* window.

To access these settings, from the SAP Business One *Main Menu*, choose *Administration* → *System Initialization* → *E-Mail Settings*.

6.2 Supported Releases

The following major or minor releases are currently supported for upgrade to 9.1:

- SAP Business One 8.8
- SAP Business One 8.81
- SAP Business One 8.82
- SAP Business One 9.0

For more information about upgrading from specific patches of supported releases, see the Patch Readme for the respective SAP Business One patch.

 **Note**

To upgrade an SAP Business One version that is lower than 8.8 to 9.1, first upgrade your current version to 8.82, and then perform the upgrade to 9.1.

Prerequisites

- You have downloaded the upgrade package from the SAP Support Portal. For more information, see [Downloading the Upgrade Package](#).
- You have ensured that company databases are not connected to any SAP Business One clients, SQL Server clients, or other applications.

- You have the SAP Business One 9.1 license file available. You need this license file for connecting your company after the upgrade process is finished. If you do not import a valid license file after the upgrade process, you cannot work with your company.
- You have administrator rights on the computer that runs the SAP Business One upgrade wizard.
- You have added the System Landscape Directory server to the list of proxy exceptions on the computer on which you want to run the upgrade wizard.
- The SBO-COMMON database that you have installed on your computer is not a later release than the upgrade package.
- If any components of SAP Business One integration for SAP NetWeaver (B1iSN) were previously installed on your server, you have uninstalled them manually before installing any integration solutions delivered with SAP Business One. This step is required due to compatibility reasons. For more information about uninstalling components of B1iSN, see the *SAP Business One integration for SAP NetWeaver Installation and Upgrade Guide*.
- You have installed the SAP Crystal Reports software.

Note

If you want to install the SAP Crystal Reports software after upgrading the SAP Business One client, you may need to run the SAP Crystal Reports integration package script. For more information, see *Running the Integration Package Script*.

For more installation information about installing the Crystal Reports software, see [Installing Crystal Reports for SAP Business One, version for the SAP Business One Application](#).

- During the upgrade of SAP Business One, you have the option of installing remote support platform for SAP Business One. For more information about installing remote support platform for SAP Business One, see *Administrator's Guide to Remote Support Platform for SAP Business One*. You can find the guide (*RSP_AdministratorGuide.pdf*) under `... \Documentation\Remote Support Platform\System Setup\` on the SAP Business One product DVD, or on sappartneredge.com.
- If the machines on which the SAP Business One client and DI API run use an HTTP proxy for network access, you have added the System Landscape Directory server to the list of proxy exceptions.

6.3 Upgrade Process

Upgrading SAP Business One consists of several steps. Each of these steps is explained in more detail in the following subsections. The configuration parameters you enter during the upgrade process, such as the license server address, are saved for subsequent use, for example future upgrades.

To perform a correct and complete upgrade of SAP Business One, do the following:

1. Run the SAP Business One upgrade wizard to perform the following operations:
 1. Validate the license server
 2. Select components for upgrade

Recommendation

Upgrade all the server components at one time, and not separately. Otherwise you may have problems fixing certain errors in the pre-upgrade test.

3. Select a database for upgrade

4. Perform pre-upgrade tests
5. Specify a backup location (only occurs when database components are selected for upgrade)
6. Run the upgrade process:
 1. Upgrade the System Landscape Directory and license service.
 2. Upgrade the common database and B1_SHR
 3. Upgrade chosen company databases
 4. Upgrade chosen server software components
7. Restore (only occurs when upgrade fails)
2. Upgrade SAP Business One client workstations, which includes the following tasks:
 1. Upgrading the SAP Business One client
 2. Upgrading SAP Business One add-ons

6.3.1 Downloading the Upgrade Package

Download the SAP Business One upgrade package from the SAP Support Portal, as follows:

1. Go to the SAP Business One Software Download Center on the SAP Support Portal at <https://support.sap.com/b1software>.
2. To download an upgrade, click *Updates*.
3. Navigate to and select the relevant download objects.

Note:

The upgrade may be divided into several download objects. In this case, select and download all objects under the same patch level designation.

4. Before starting the download, read the Info file for the selected download object.
5. Extract the downloaded file to your computer.
6. Before you start an upgrade, read the section [Running the SAP Business One Upgrade Wizard](#).

If you experience problems when downloading software, send a message to SAP as follows:

1. Go to the SAP Business One support center on sappartneredge.com.
2. In the left navigation panel, click *Partner Support Dashboard*.
3. Use SAP Message Wizard to write the message and assign it to component SBO-CRO-SUP.

Note:

If your download fails due to an unstable internet connection, try using the SAP Download Manager, which supports resumable downloads. In the SAP Business One Software Center, first move your objects into Download Basket and then download them with the SAP Download Manager. To install the SAP Download Manager, click the [Get the SAP Download Manager](#) link in the left navigation pane.

6.3.2 Running the SAP Business One Upgrade Wizard

The upgrade wizard includes the following setup types:

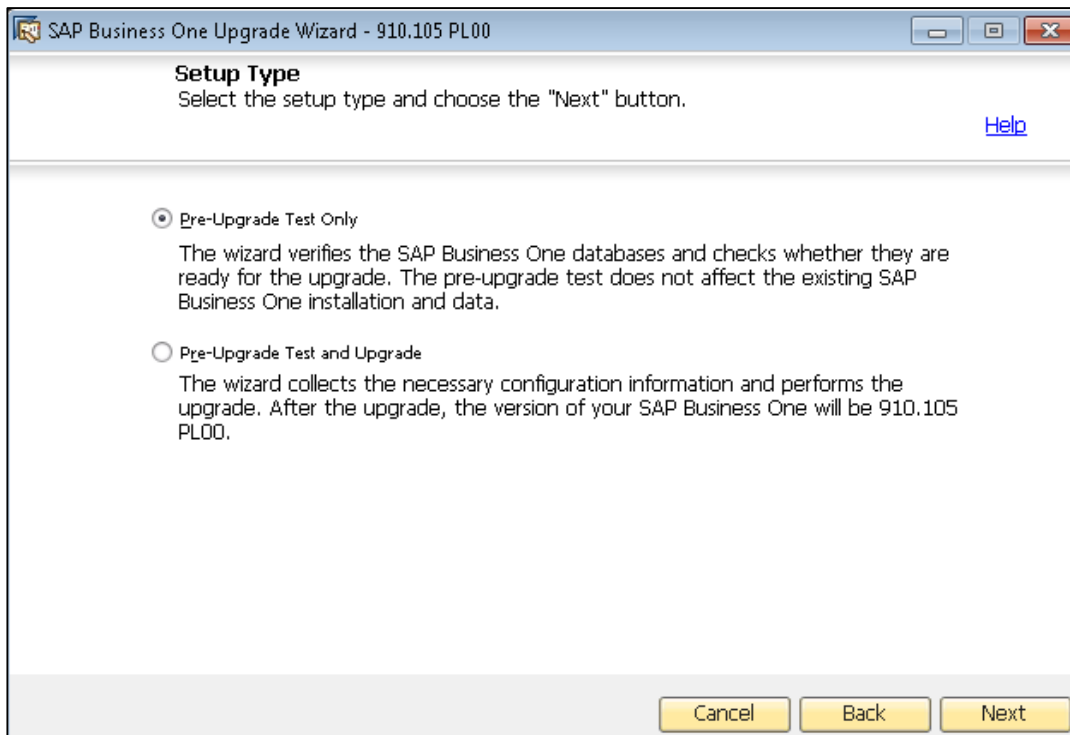
- **Pre-Upgrade Test Only** – The wizard performs a series of version-specific verification checks on selected databases to see if they are ready for upgrade. The existing installation and data are not changed. If the tests are completed successfully, you can generate passcodes that allow you to bypass the pre-upgrade tests during the upgrade process.
- **Pre-upgrade Test and Upgrade** – The wizard performs pre-upgrade tests and upgrades the selected components and databases. If you previously performed pre-upgrade tests for a database and generated passcodes, you can enter the passcodes to bypass the automatic testing for this database.

6.3.2.1 Performing Pre-Upgrade Tests Only

Procedure

To perform pre-upgrade tests only, do the following:

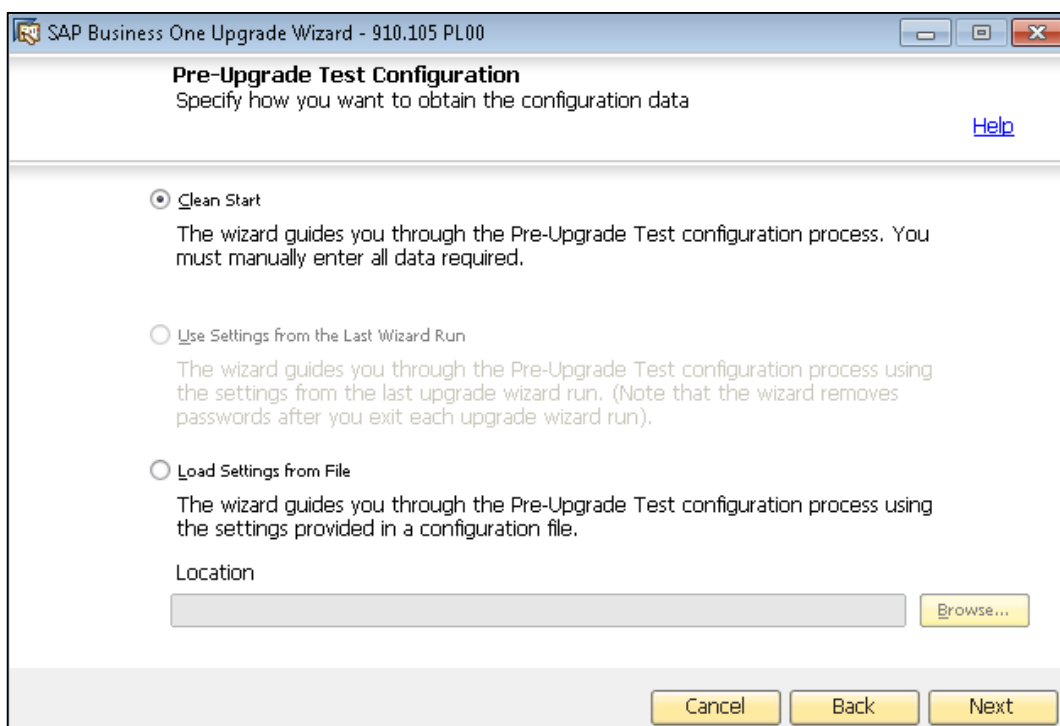
1. In the upgrade root folder, double-click the `Upgrade.exe` file.
If you are using Windows Server 2008 or Windows 7, right-click the `Upgrade.exe` file and choose *Run as administrator*.
2. To start the upgrade, in the *Welcome* window, select your language, and then choose the *Next* button.
3. In the *Setup Type* window, select the *Perform Pre-Upgrade Test Only* checkbox, and then choose the *Next* button.



4. In the *Pre-Upgrade Test Configuration* window, select either of the following options:
 - *Clean Start* – Select this radio button to manually enter all the required settings.
 - *Use Settings from the Last Wizard Run* – Select this radio button to use the settings from the last wizard run, which are stored in the configuration file generated during that run.
 - *Load Settings from File* – Select this radio button to use the settings stored in a configuration file generated during a previous wizard run, and then specify the location of the file you want to use.

i Note

To obtain the required `Config.XML` file, first run the upgrade wizard and select the *Clean Start* option. After generating this file, you can make a copy and use a text editor to modify the values for future use as required.



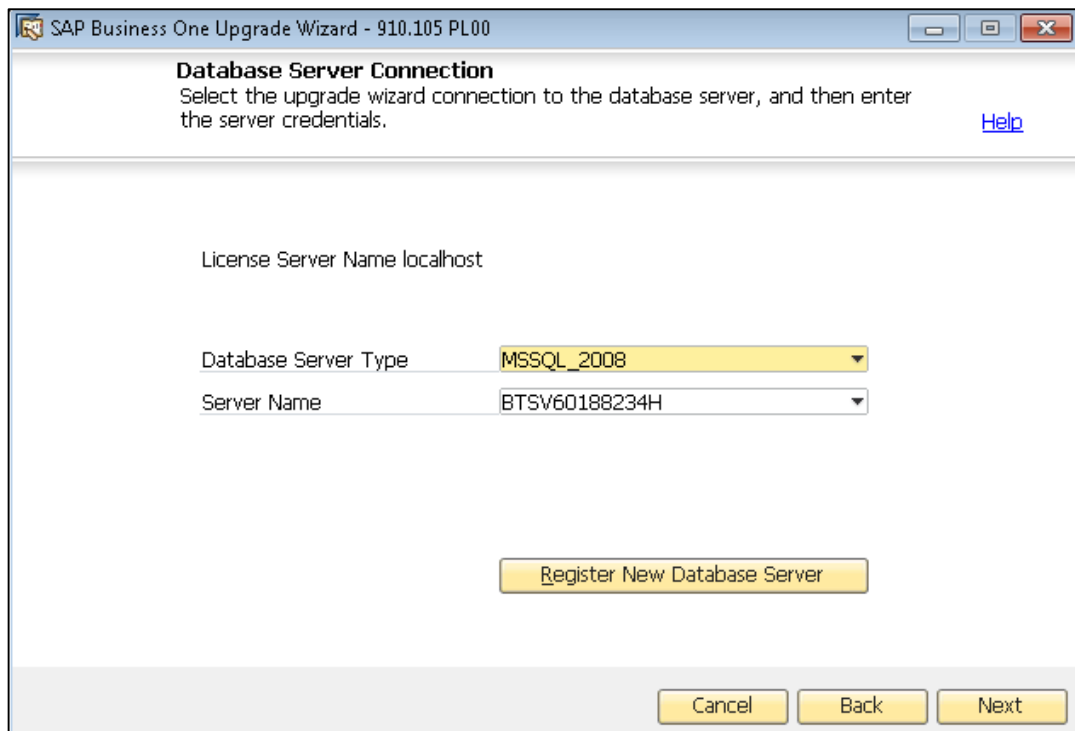
5. In the *Database Server Connection* window, from the *Connection Type* dropdown list, select how the wizard connects to the database server. The available options are:
 - *License Server* – The wizard connects to an SAP Business One license server and retrieves a list of available database server instances. License server authentication uses the SAP Business One site user credentials, and you do not require database server credentials. If you select this option, specify the following:
 - *License Server Name* – Enter the host name of the server.
 - *Port* – Enter the port number. The default port is 30000.
 - *Password* – Enter the site user password.
 - *Database Server* – The wizard connects directly to a specified database server instance, for which you require the database administrator account credentials for authentication. If you select this option, specify the following:
 - *Database Server Type* – Select the version of Microsoft SQL Server that you are using.

- *Server Name* – Enter the host name of the server.
- *Use Trusted Connection* – Select this checkbox to use Windows Authentication to validate access to the Microsoft SQL server instance.
- *User Name* – Enter the user name of a database administrator account.
- *Password* – Enter the password of the database administrator account.

i Note

If you have problems setting the server, ensure that the name format of your computer is the same as the name format of your license server.

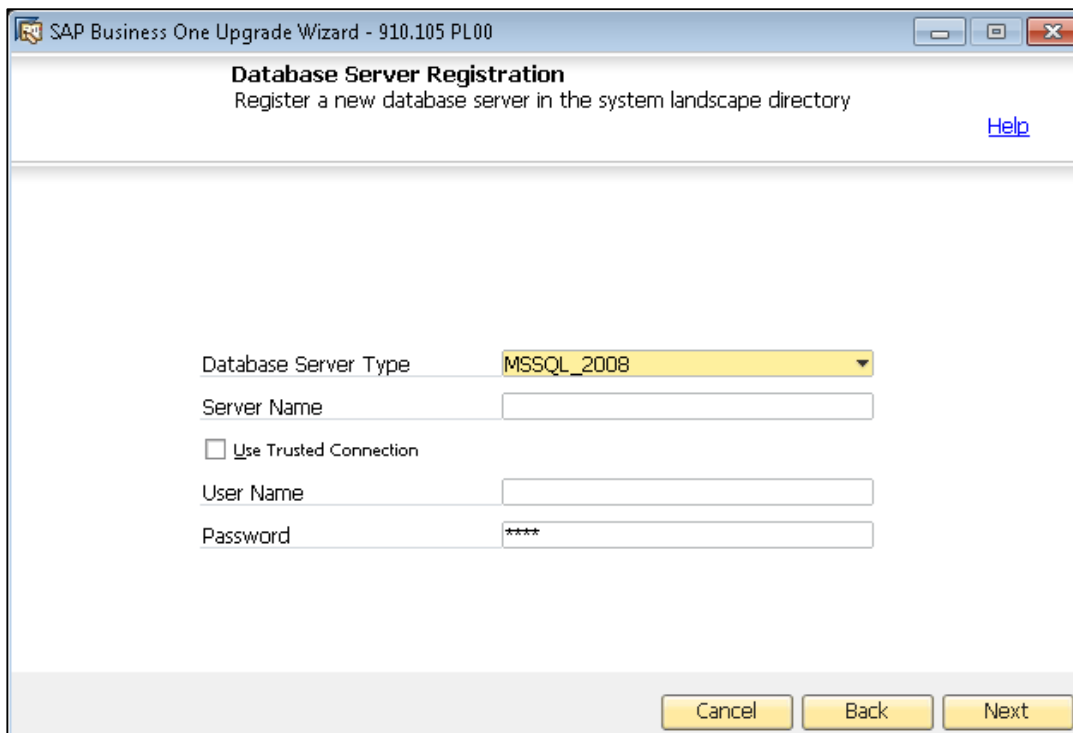
6. In the *Database Server Connection* window, do either of the following:
 - To use an existing database server instance, select the server type and name from the corresponding dropdown lists, and then choose the *Next* button.



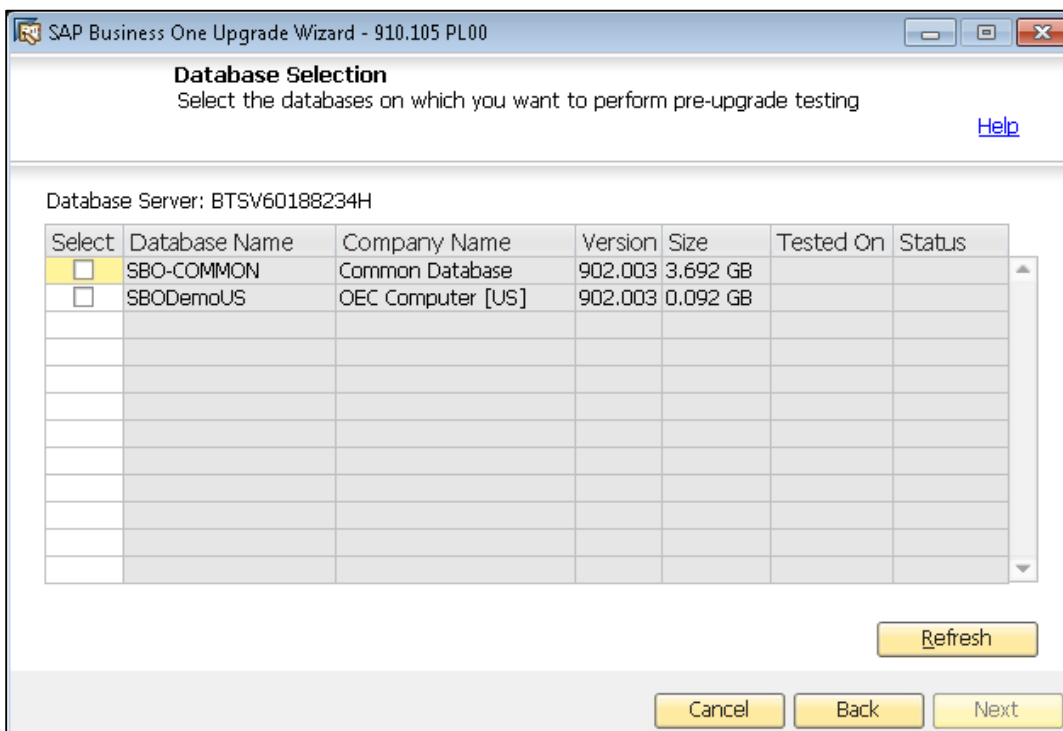
- To register a new database server instance, choose the [Register New DB at SLD](#) button, and then specify the following information in the [Database Server Registration](#) window:
 - [Database Server Type](#) – Select the version of Microsoft SQL Server that you are using.
 - [Server Name](#) – Enter the host name of the server.
 - [Use Trusted Connection](#) – Select this checkbox to use Windows Authentication to validate access to the Microsoft SQL server instance.
 - [User Name](#) – Enter the user name of a database administrator account.
 - [Password](#) – Enter the password of the database administrator account.

i Note

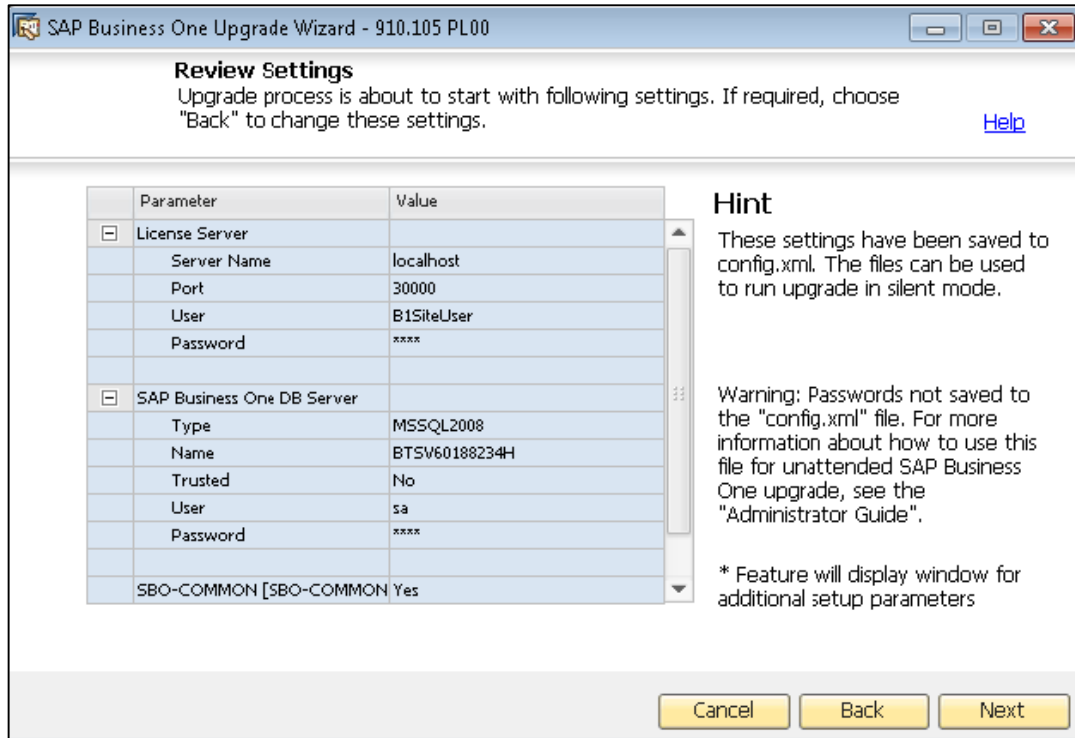
If you have problems setting the server, ensure that the name format of your computer is the same as the name format of your license server.



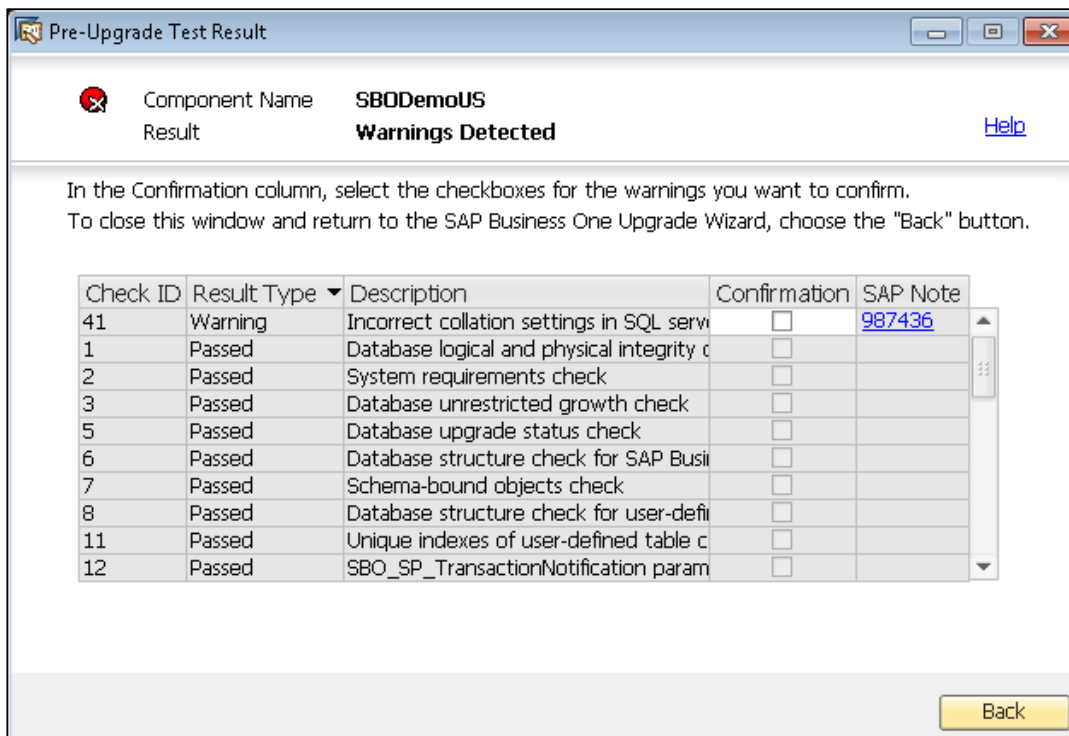
7. In the *Database Selection* window, select the corresponding checkboxes for the databases on the specified server for which you want to perform pre-upgrade testing.



8. The *Review Settings* window provides an overview of the settings that you have configured for the pre-upgrade tests. To modify any of the settings, choose the *Back* button; otherwise choose *Next* to proceed with the pre-upgrade testing.



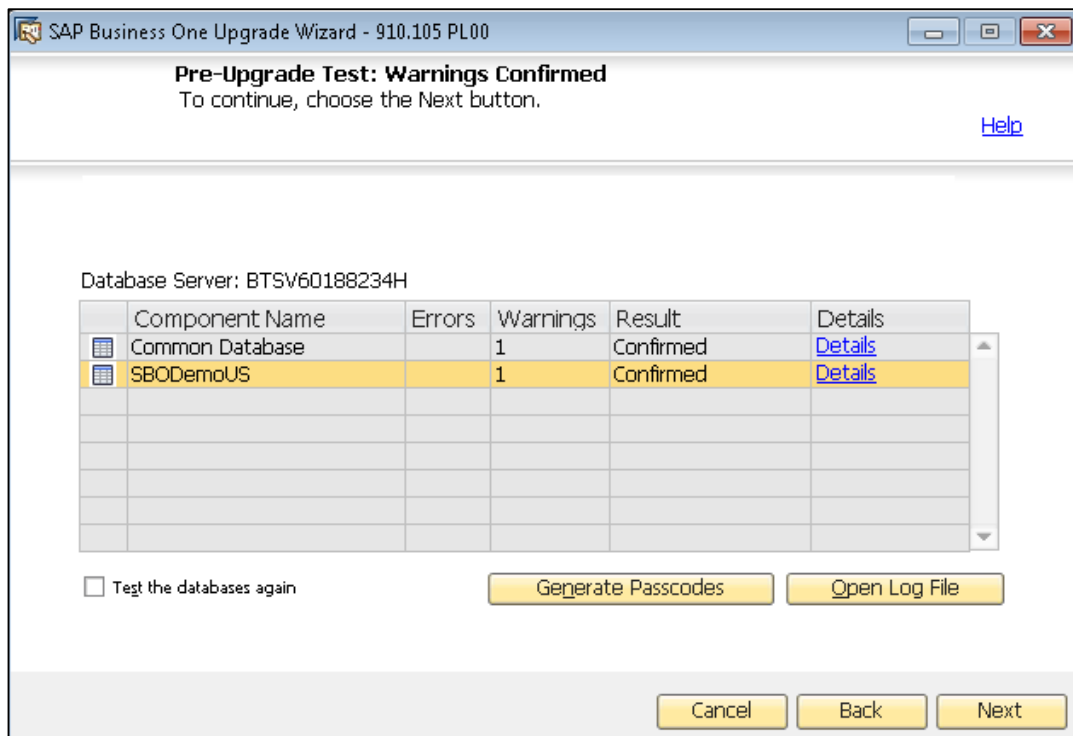
9. The *Pre-Upgrade Test* window provides an overview of the pre-upgrade testing process.
 - o To perform pre-upgrade tests on the selected databases, choose the *Start* button.
 - o To change the settings, choose the *Back* button to return to the previous steps.
10. The *Pre-Upgrade Test Results* window provides a detailed overview of the results of the pre-upgrade tests. You can view information about individual checks, possible solutions to errors, and recommendations for dealing with warnings by clicking the links to the corresponding notes in the *SAP Note* column.
11. If the wizard detects any warnings, do either of the following:
 - o To ignore a warning, select the corresponding checkbox in the *Confirmation* column.
 - o To fix an issue, click the corresponding hyperlink in the *SAP Note* column and follow the recommendations. After fixing the issue, select the checkbox in the *Confirmation* column.
 After confirming all warnings, choose the *Back* button to return to the upgrade wizard.



- In the *Pre-Upgrade Test: Warnings Confirmed* window, to generate passcodes that allow you to bypass the pre-upgrade tests during the upgrade process, choose the *Generate Passcodes* button.

i Note

The wizard generates individual passcodes for each database, which are valid for three days. After three days, or if you make any changes to the company configuration, passcodes become invalid. Passcodes are saved in an XML file, which also contains information about the tested databases.

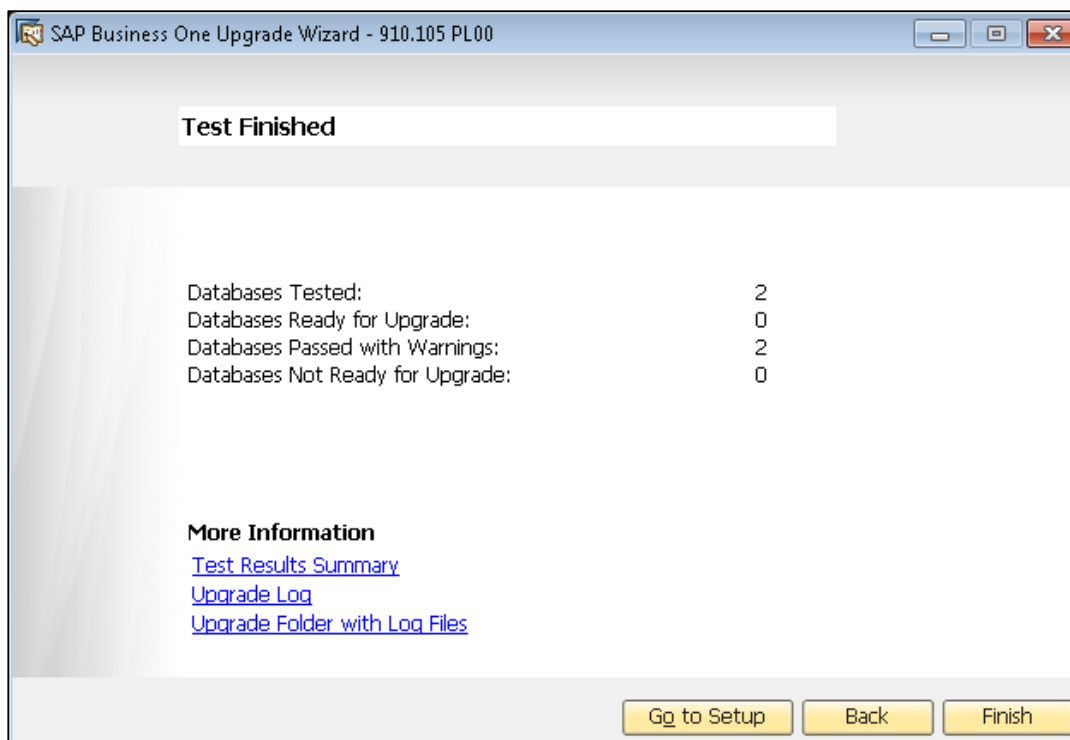


13. In the *Generate Passcodes* window, choose the *Generate* button, and then specify a folder where you want to save the XML file containing the passcodes.

➔ Recommendation

Keep a record of the full path to the folder, as you are required to enter this during the upgrade process if you want to skip the pre-upgrade tests.

14. In the *Test Finished* window, do either of the following:
 - To complete the pre-upgrade testing and exit the wizard, choose the *Finish* button.
 - To upgrade SAP Business One components and databases using the settings you have already entered, without having to re-enter passwords, choose the *Go to Setup* button.



i Note

For more information about the pre-upgrade testing, in the *Test Finished* window, you can choose the following:

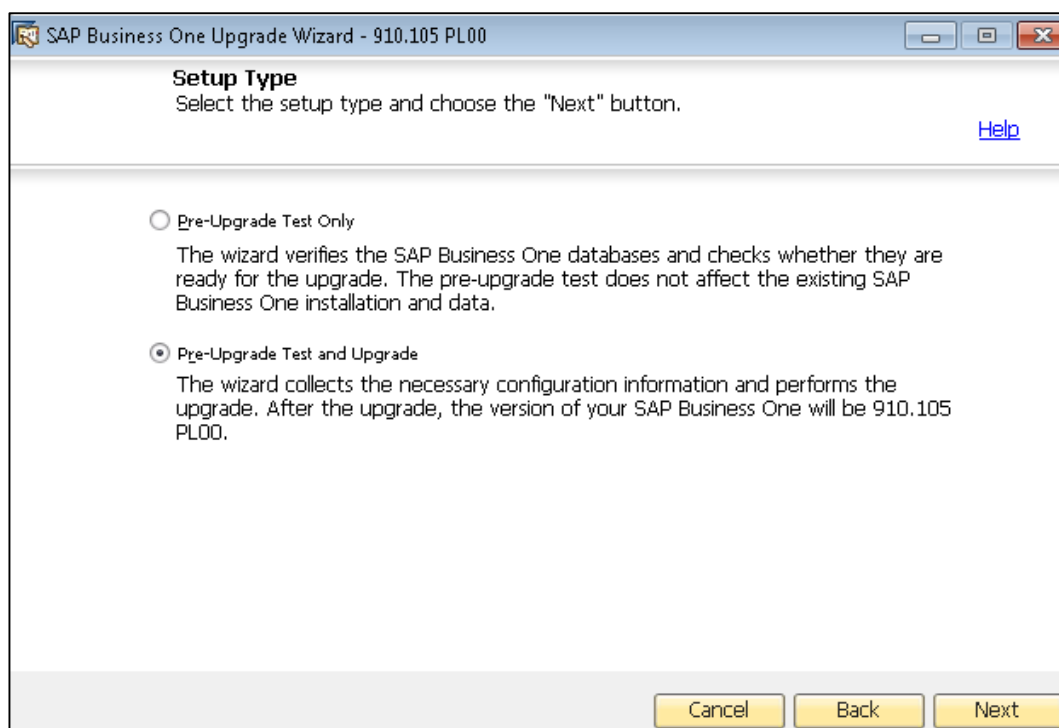
- *Test Results Summary* – Provides a summary of the pre-upgrade tests.
- *Upgrade Log* – Opens a log file that provides a high-level overview of the pre-upgrade test results for each component and database. This log file also contains links to detailed technical logs for any components or databases for which the testing process failed.
- *Upgrade Folder with Log Files* – Opens a folder containing all the log files for the current pre-upgrade tests.

6.3.2.2 Performing Pre-Upgrade Tests and Upgrades

Procedure

To perform pre-upgrade tests and upgrade the selected components and databases, do the following:

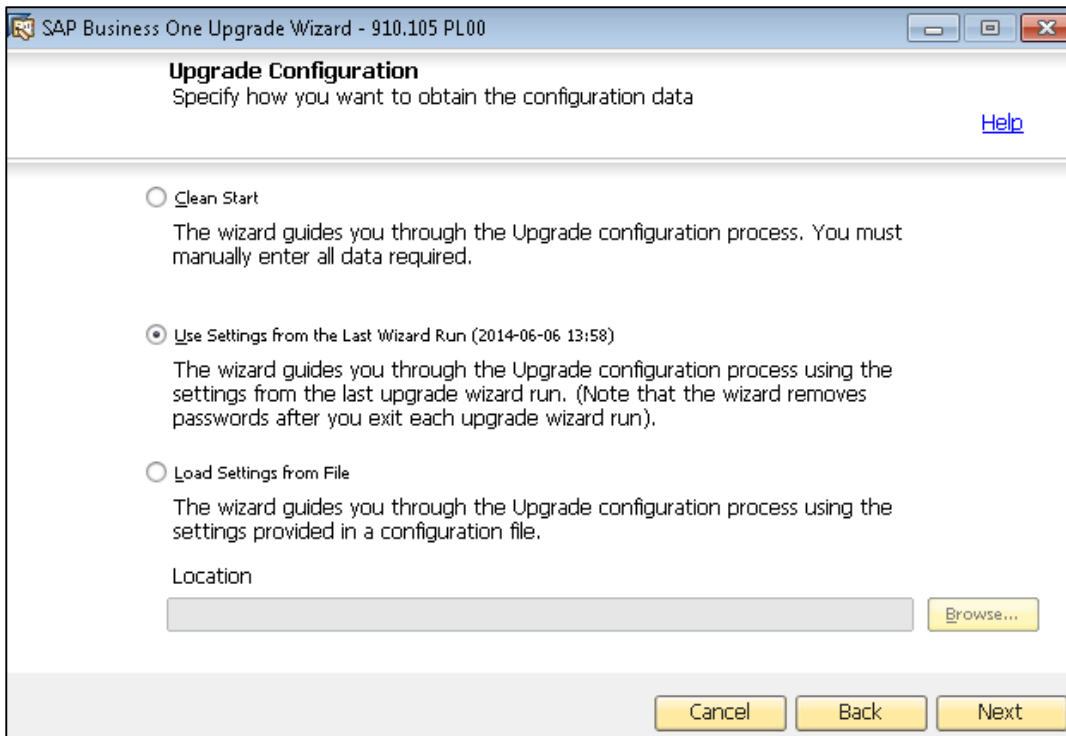
1. In the upgrade root folder, double-click the `Upgrade.exe` file.
If you are using Windows Server 2008 or Windows 7, right-click the `Upgrade.exe` file and choose *Run as administrator*.
2. To start the upgrade, in the *Welcome* window, select your language, and then choose the *Next* button.
3. In the *Setup Type* window, select the *Pre-Upgrade Test and Upgrade* checkbox, and then choose the *Next* button.



4. In the *Upgrade Configuration* window, select either of the following options:
- *Clean Start* – Select this radio button to manually enter all the required settings.
 - *Use Settings from the Last Wizard Run* – Select this radio button to use the settings from the last wizard run, which are stored in the configuration file generated during that run.
 - *Load Settings from File* – Select this radio button to use the settings stored in a configuration file generated during a previous wizard run, and then specify the location of the file you want to use.

i Note

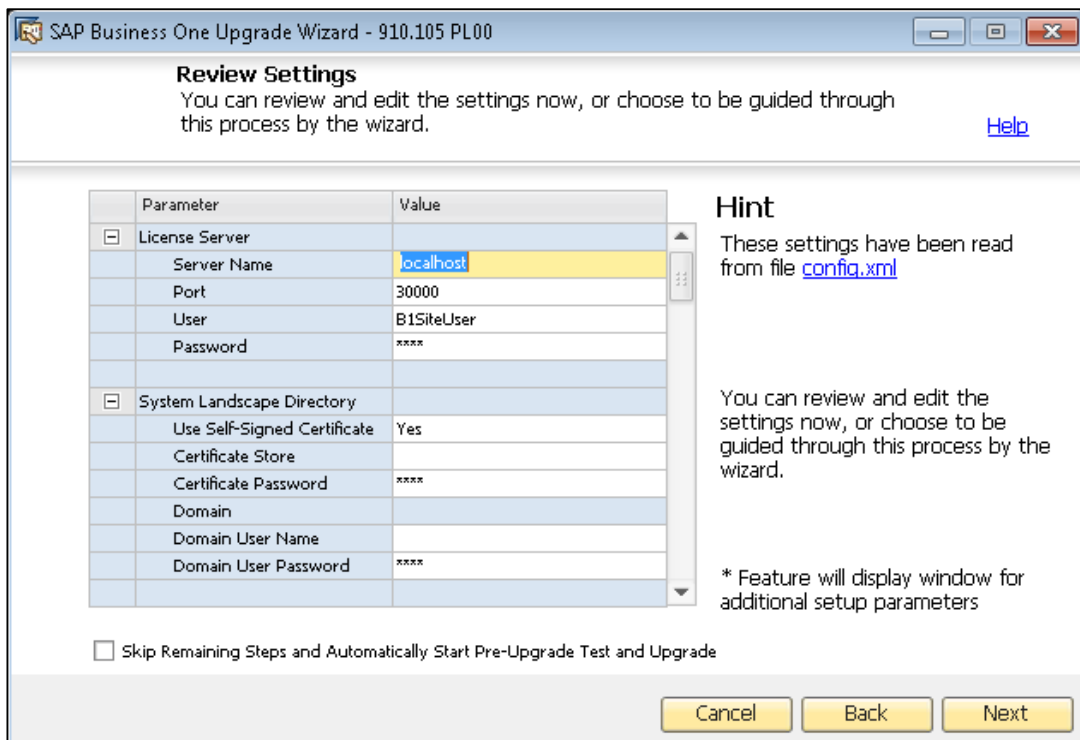
To obtain the required `Config.XML` file, first run the upgrade wizard and select the *Clean Start* option. After generating this file, you can make a copy and use a text editor to modify the values for future use as required.



5. If you select to use the settings from the previous wizard run or a file, the *Review Settings* window appears. This window provides an overview of the settings that you have configured for the upgrade process. To modify any of the settings, edit the values in the table. Otherwise, choose *Next* to proceed with the upgrade.

i Note

If you are sure that all the settings are correct, you can select the *Skip Remaining Steps and Automatically Start Pre-Upgrade Test and Upgrade* checkbox to bypass the remaining wizard steps and begin the process immediately.

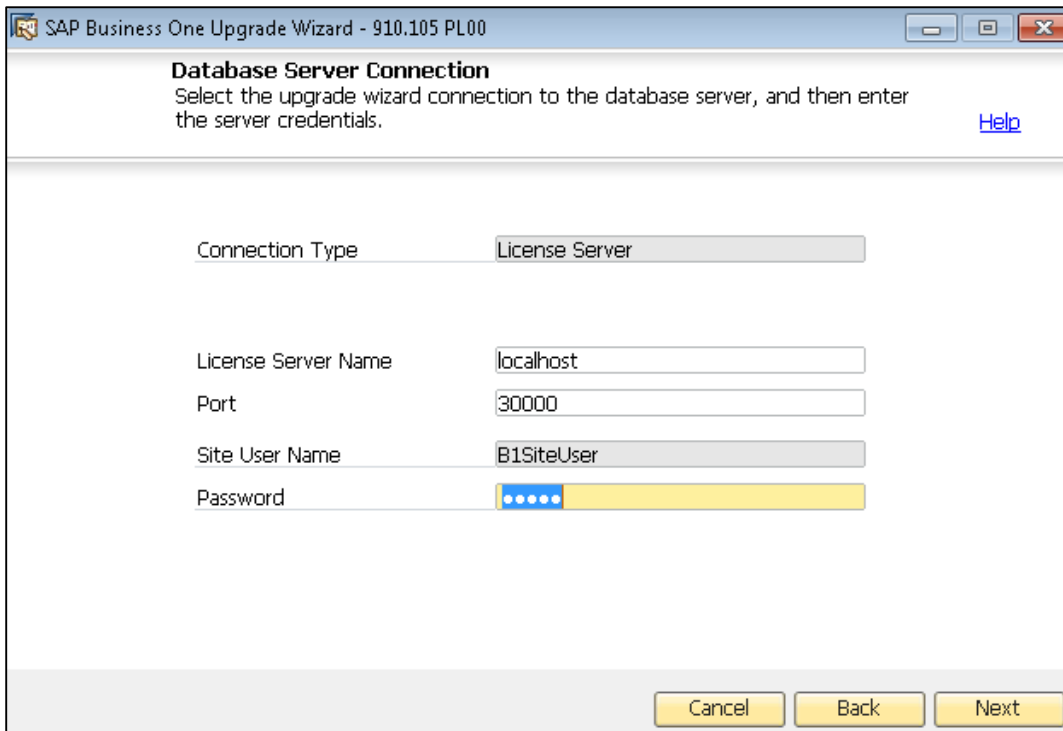


- In the *Database Server Connection* window, enter the name and port of the license server that you want to use for authentication, and then enter the site user password.

If you specify the local machine, for example by entering **localhost**, and do not already have a license server installed locally, the wizard automatically performs a clean install of the license server and System Landscape Directory.

 **Caution**

If you are choosing a remote license server, ensure it is the 9.1 release; otherwise, the upgrade cannot proceed.



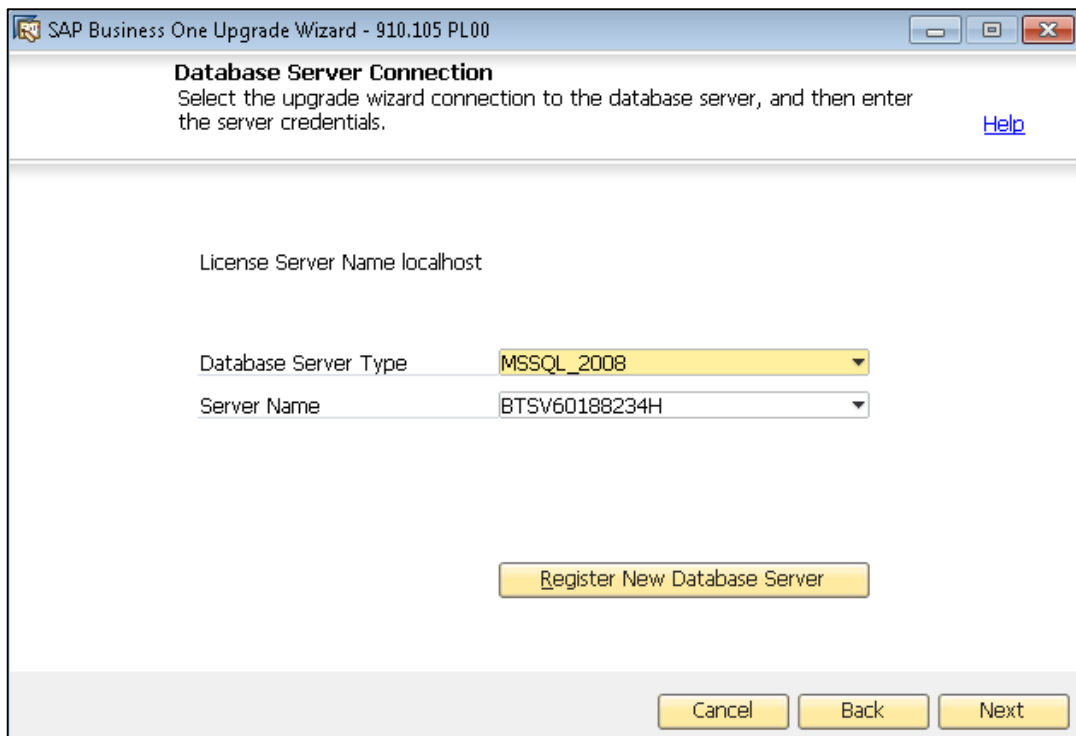
i Note

If the wizard detects a license server, but has problems communicating with that license server, the following reasons may be causing the communication problems:

- o License server is not launched
- o License server cannot be connected

To continue with the wizard, you must fix the connection problems.

7. The license server retrieves a list of available database server instances. In the *Database Server Connection* window, do either of the following:
 - o To use an existing database server instance, select the server type and name from the corresponding dropdown lists, and then choose the *Next* button.



- To register a new database server instance, choose the [Register New DB at SLD button](#), and then specify the following information in the [Database Server Registration](#) window:
 - [Database Server Type](#) – Select the version of Microsoft SQL Server that you are using.
 - [Server Name](#) – Enter the host name of the server.
 - [Use Trusted Connection](#) – Select this checkbox to use Windows Authentication to validate access to the Microsoft SQL Server instance.
 - [User Name](#) – Enter the user name of a database administrator account.
 - [Password](#) – Enter the password of the database administrator account.

i Note

If you have problems setting the server, ensure that the name format of your computer is the same as the name format of your license server.

8. In the [Component Selections](#) window, select the corresponding checkboxes of the components that you want to upgrade.

If a component has already been upgraded to the current version or release, its checkbox is enabled and not selected. If you select the checkbox of an already upgraded component, the wizard overwrites all instances of installed components.

➔ Recommendation

We recommend that you upgrade all the server components at one time, and not separately. Otherwise, you may have problems fixing certain errors in the pre-upgrade test.

Note

To upgrade all SAP add-ons, select the [Add-Ons](#) checkbox. Then all the new releases of add-ons, including the Microsoft Outlook integration server installer add-on, are automatically registered on the SAP Business One server and new installers are uploaded to the server.

The wizard also lists all third-party add-ons present in the ...\\Packages\\Add-Ons Autoreg or ...\\Packages.x64\\Add-Ons Autoreg folders, which you can select to upgrade.

For more information about upgrading add-ons, see [Upgrading SAP Add-ons](#).

Note

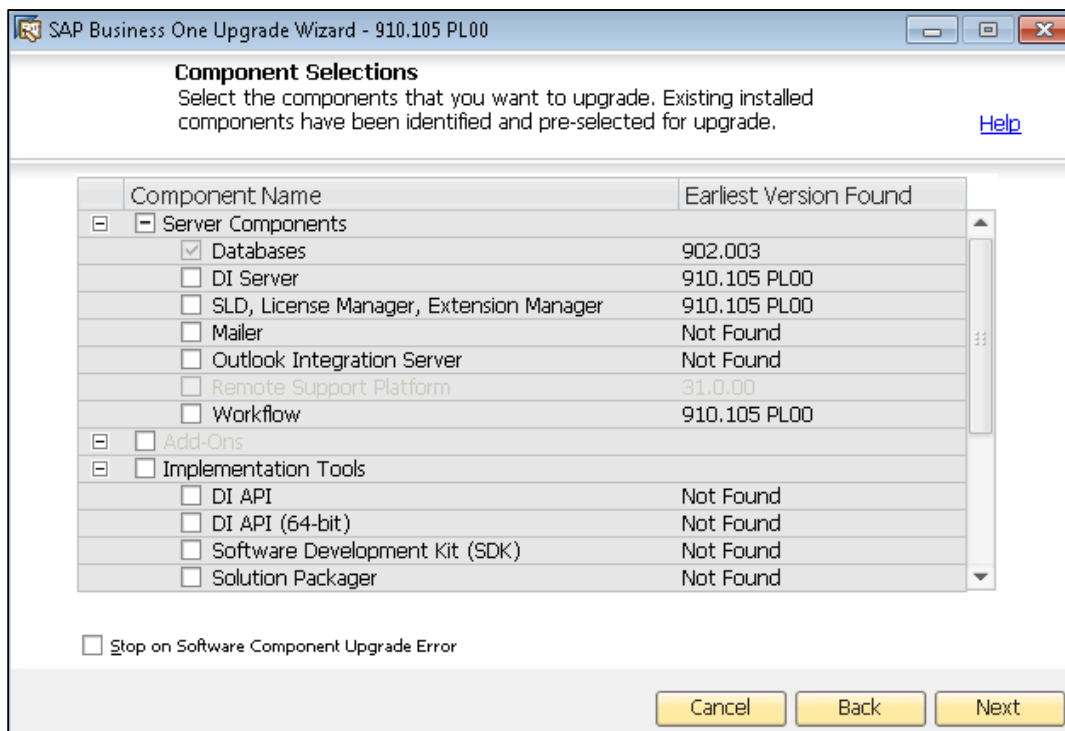
If the common database does not already exist, the wizard automatically creates it. Otherwise, you cannot proceed with the upgrade.

Note

The license server must be upgraded first. If your license server has not been upgraded to 9.1, the wizard automatically selects the corresponding checkbox.

Note

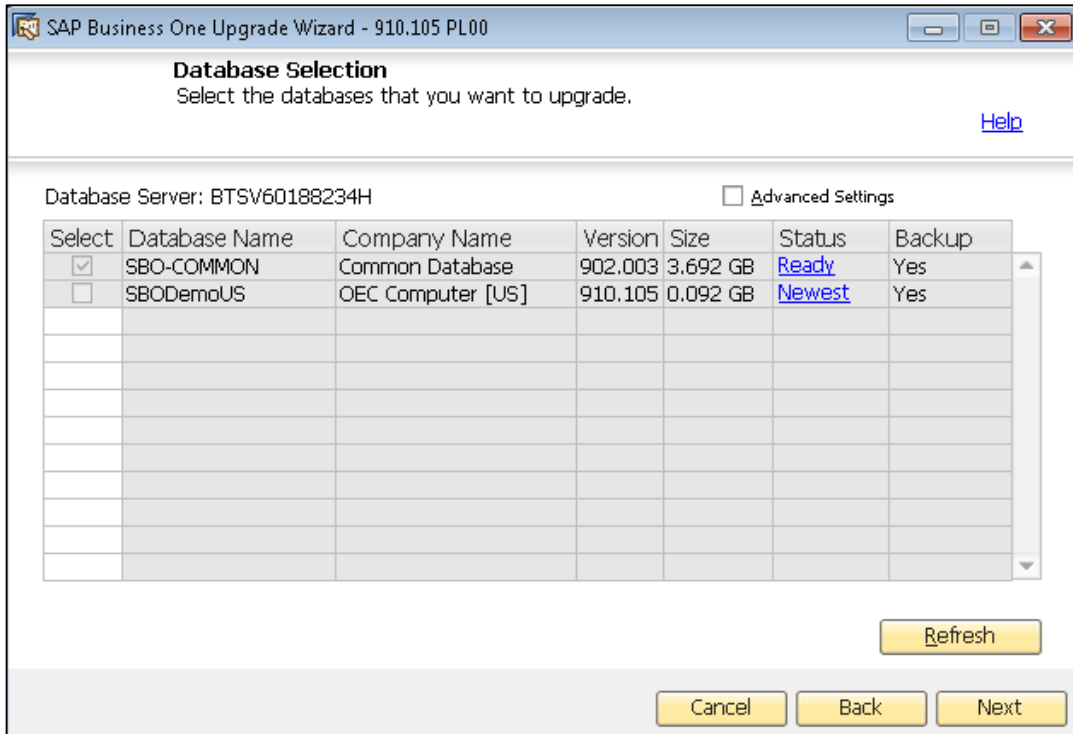
The upgrade wizard upgrades client components, but it does not upgrade client workstations. For more information about upgrading SAP Business One clients, see [Upgrading Client Workstations](#).



9. In the [Database Selection](#) window, select the checkboxes of the databases that you want to upgrade.

Note

If you previously selected the *Common Database* checkbox in the *Component Selection* window and it is not the latest version, the checkbox is selected by default and you cannot deselect it.



The wizard checks the version and the localization of the databases. In each of the following cases, the status of the database is *Not Ready*, and you cannot select the database for upgrade:

- o The wizard does not support the version of the company database.
 - o The company database is already of the latest version.
 - o The wizard does not find the localization of the company database from the locale list in the common database.
 - o The wizard finds more than one connection to the database.
 - o Superuser is locked or no superuser is provided.
10. To view additional options and information, select the *Advanced Settings* checkbox, and then specify the following:

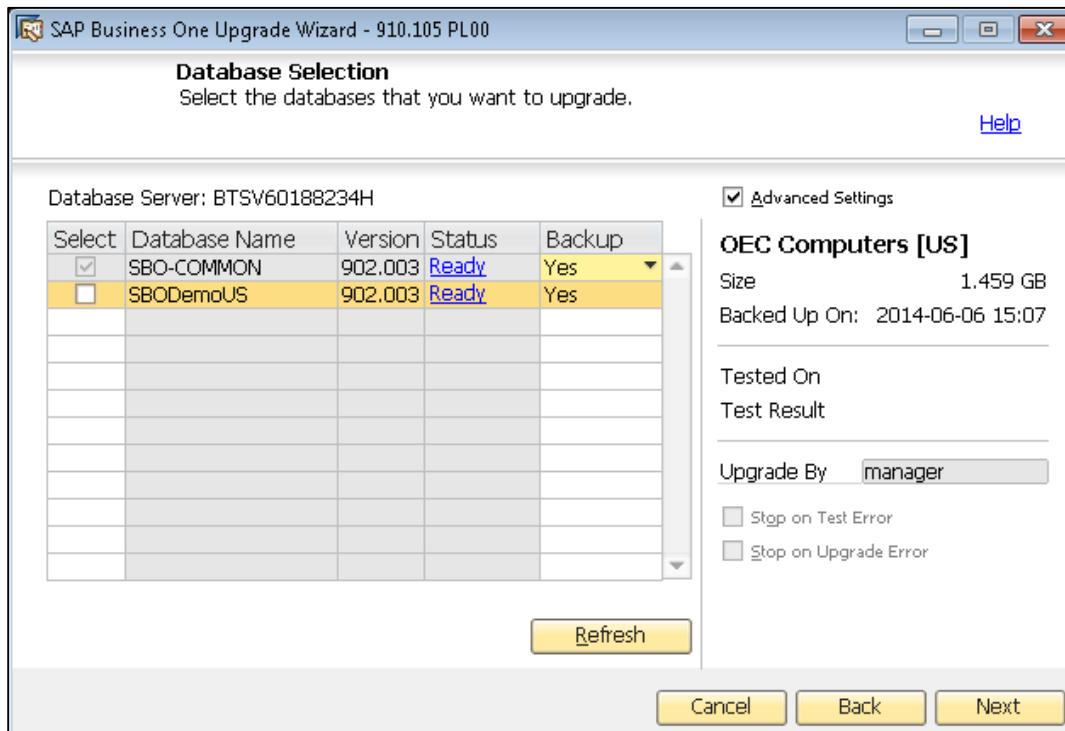
- o *Backup* – From the dropdown lists in the *Backup* column, select whether to backup each database before the upgrade.

Caution

If you select not to backup a database before upgrade, you cannot restore the database should the upgrade fail. SAP does not provide support for such databases in the case of an upgrade failure; a backup of the pre-upgrade database is required to qualify for SAP support.

- o *Upgrade By* – From the dropdown list, select the SAP Business One user that you want to use to perform the upgrade. By default, the wizard uses the `manager` account.

- *Stop on Test Error* – Select this checkbox to force the wizard to stop the entire upgrade process if it encounters an error during a pre-upgrade test.
- *Stop on Upgrade Error* – Select this checkbox to force the wizard to stop the entire upgrade process if it encounters an error while upgrading a component.



11. If all the selected databases have the status *Ready*, choose the *Next* button.

i Note

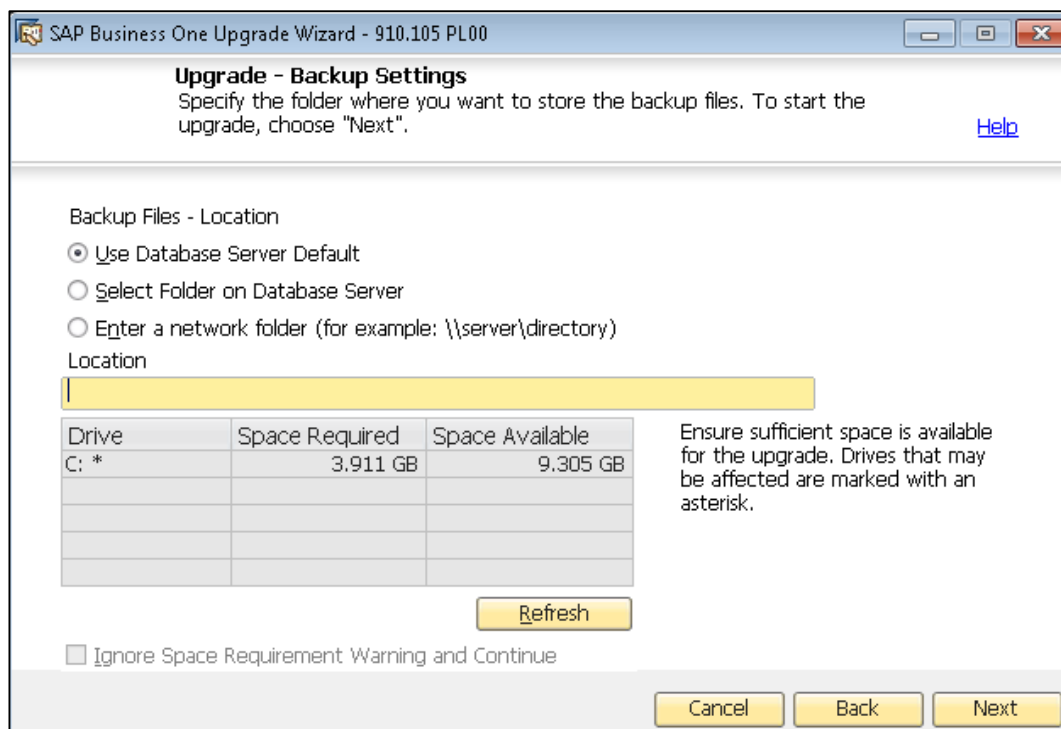
If any of the selected databases has the status *Not Ready*, the wizard disables the *Next* button.

Choose the *Not Ready* link to see the details. You cannot proceed to the next step until you have fixed the problem.

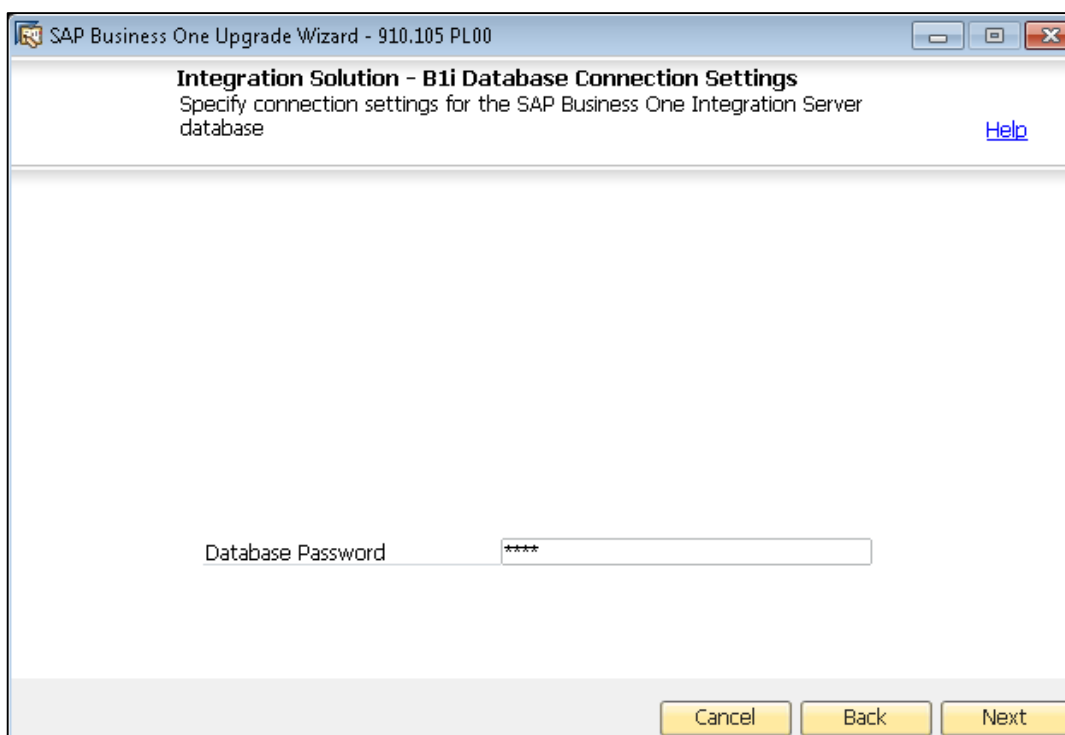
To proceed with the upgrade while ignoring the *Not Ready* databases, deselect these databases and choose the *Next* button.

12. In the *Upgrade - Backup Settings* window, specify the location where you want to store the backup files created before upgrading the selected components.
 - To use the default backup path configured in SQL Server, choose *Use the Default SQL Server Backup Location*.
 - To use another location on the database server, choose *Browse directories on database server* and click the *Browse* button to choose a directory.
 - To use a network drive, choose *Enter a network path* and specify the path.

After you specify a location for the backup, the wizard displays the amount of space required for database backups and the available space on the corresponding drives.

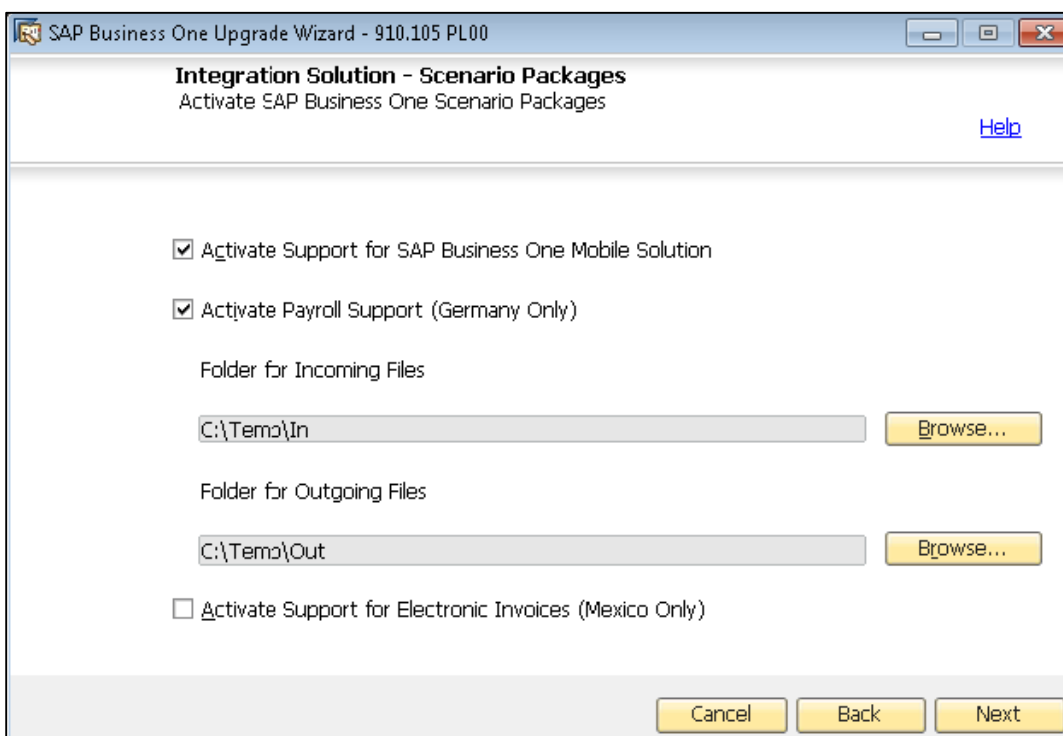


13. If you previously selected the integration solution in the *Component Selections* window, the *Integration Solution - B1i Database Connection Settings* window appears.
To enable the wizard to upgrade the integration solution database, enter the database password.



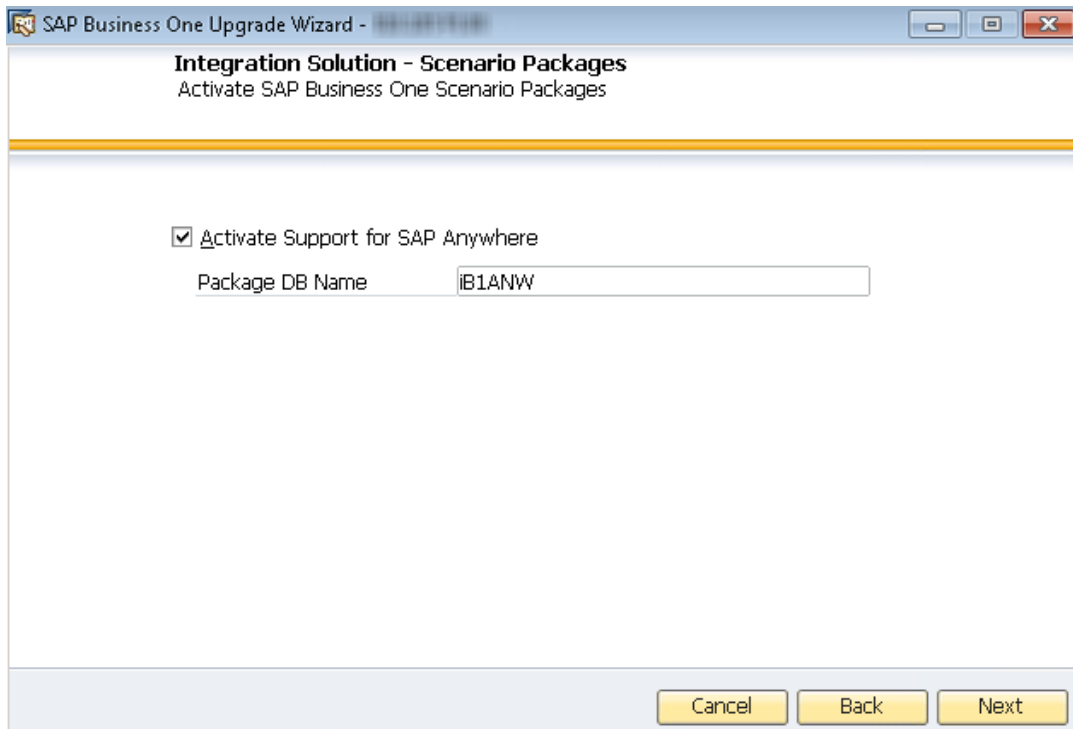
14. In the *Integration Solution - Scenario Packages* window, do the following:

- o To activate support for the SAP Business One mobile solution, select the *Activate support for SAP Business One Mobile solution* checkbox.
For more information, see *Setting Up the Mobile Scenario in Integration Component* in the ...\\Documentation\\B1 Integration Component folder of the product DVD.
- o To activate payroll support (DATEV/HR package, Germany only), select the *Activate payroll support (Germany only)* checkbox, and then set the destination folder for incoming files and outgoing files.
For more information about activating payroll support later, see *Leitfaden zur Personalabrechnung mit DATEV HR (German only)* in the ...\\Documentation\\B1 Integration Component folder of the product DVD.
- o To activate support for electronic invoices (Mexico only), select the *Activate support for electronic invoices (Mexico only)* checkbox.

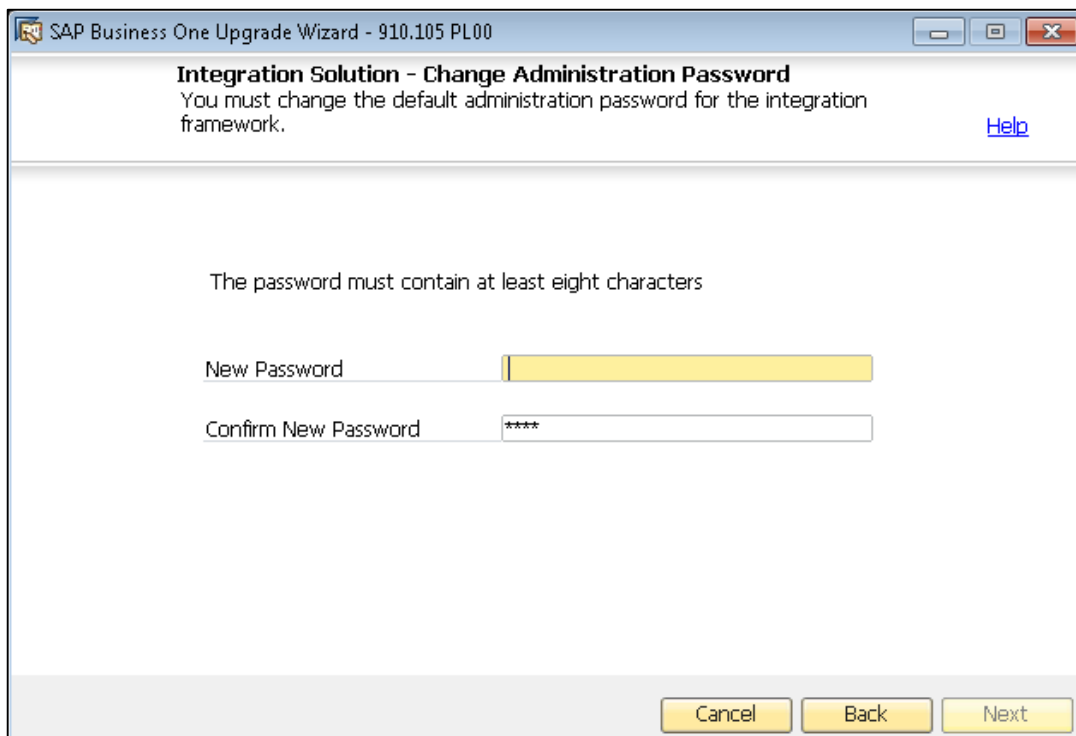


15. In the next *Integration Solution - Scenario Packages* window, to activate integration with SAP Anywhere, select the *Activate Support for SAP Anywhere* checkbox.

The integration requires a database. Enter another name or use the default name.



16. If you selected to upgrade the integration framework and no integration framework already exists, the wizard displays some additional windows that guide you through the installation process of the integration framework, as follows:
1. In the *Integration Solution - Change Administration Password*, enter and confirm a new password for the integration framework administration account.



2. In the *Integration Solution - Additional Information* window, do either of the following:
- If you selected to use a Trusted Connection (Windows Authentication) for connections to the database server instance, enter both the user name and password of the SAP Business One database server administrator account and the user ID and password of the SAP Business One account used for DI calls.

SAP Business One Upgrade Wizard - 910.105 PL00

Integration Solution - Additional Information [Help](#)

Enter an SAP Business One database server user ID and password

Database User ID

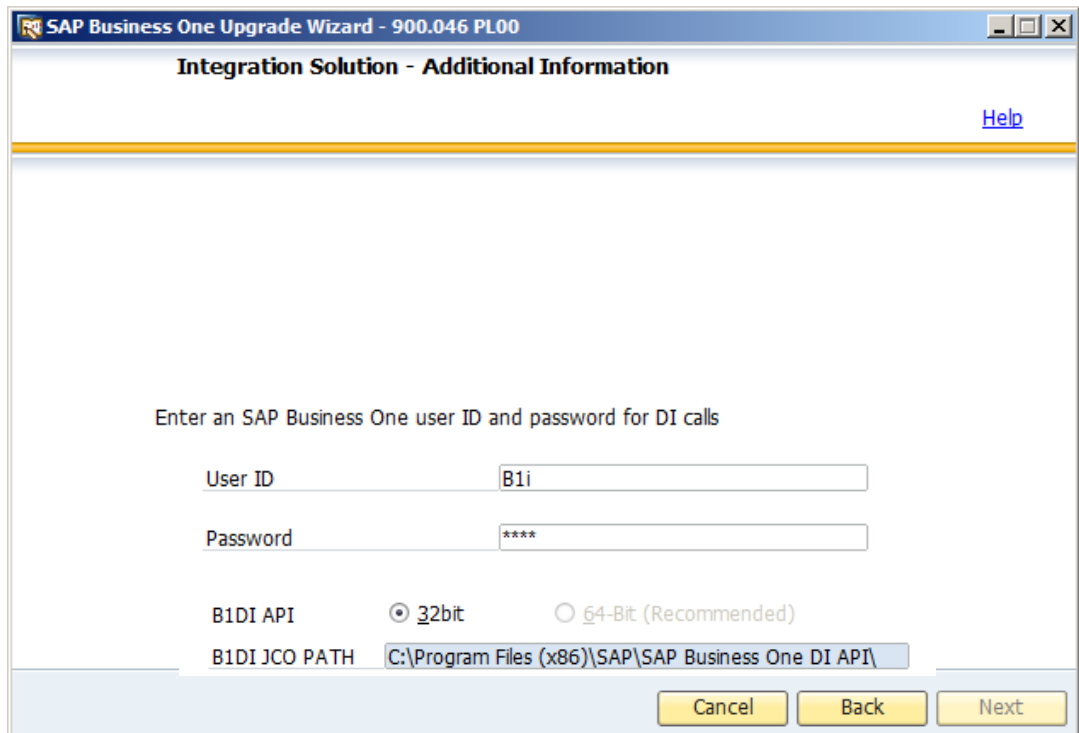
Database Password

Enter an SAP Business One user ID and password for DI calls

User ID

Password

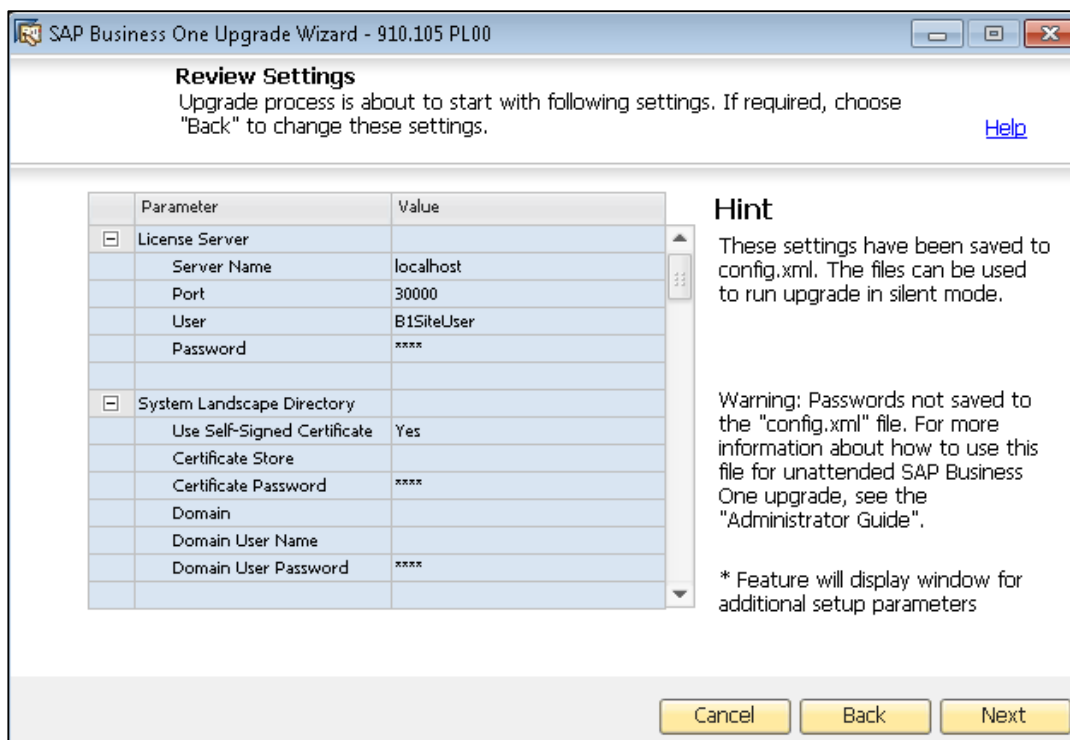
- If you did not select to use a Trusted Connection (Windows Authentication) for connections to the database server instance, enter only the user ID and password of the SAP Business One account used for DI calls.



Note

When using the upgrade wizard of SAP Business One, in addition to the 32-bit version of the SAP Business One DI API, the 64-bit version is also available. We recommend using the 64-bit SAP Business One DI API. For more information, see SAP Note [2066060](#).

17. The [Review Settings](#) window provides an overview of the settings that you have configured for the pre-upgrade tests. To modify any of the settings, choose the [Back](#) button; otherwise choose [Next](#) to proceed with the pre-upgrade testing.

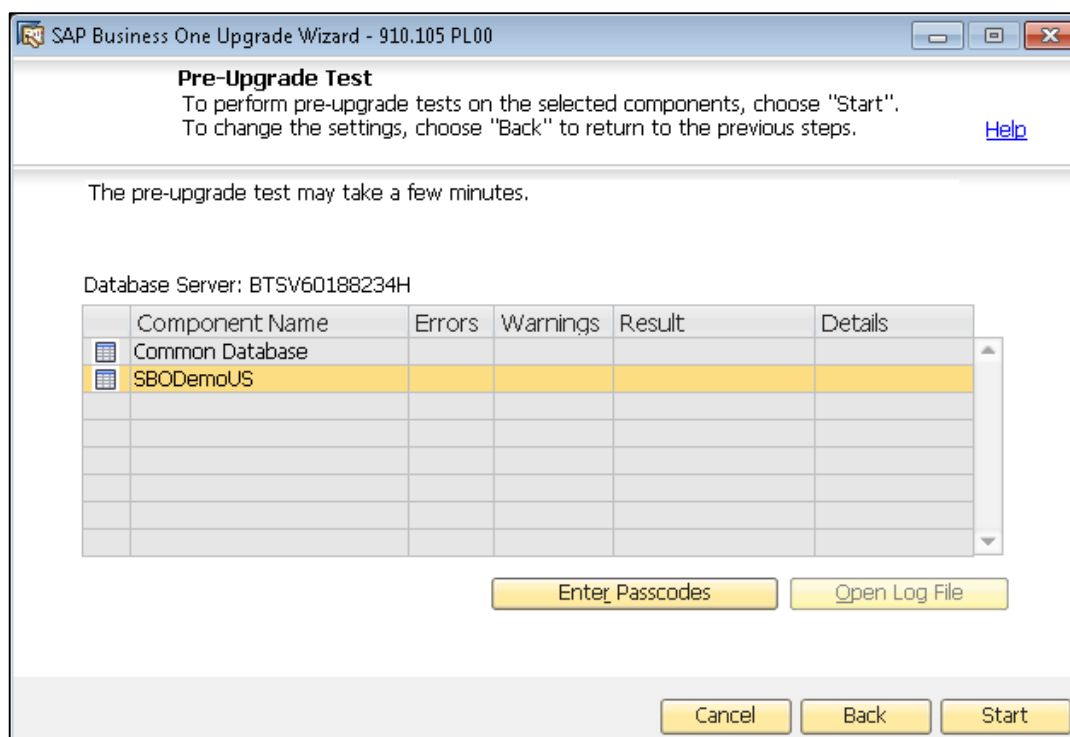


18. In the *Pre-Upgrade Test* window, do the following:

- o To bypass the tests for a database, choose the *Enter Passcodes* button and upload one or more passcode files you saved earlier.
- o Choose the *Next* button, and then proceed to step 23.
- o To perform pre-upgrade tests on each database to ensure its readiness for the upgrade and to reduce the possibility of upgrade failure, choose the *Start* button.

i Note

For the latest information about pre-upgrade tests, see SAP Note [1357462](#).



19. In the *Pre-Upgrade Testing In Progress* window, the wizard first checks the common database and then checks each of the remaining databases one by one.

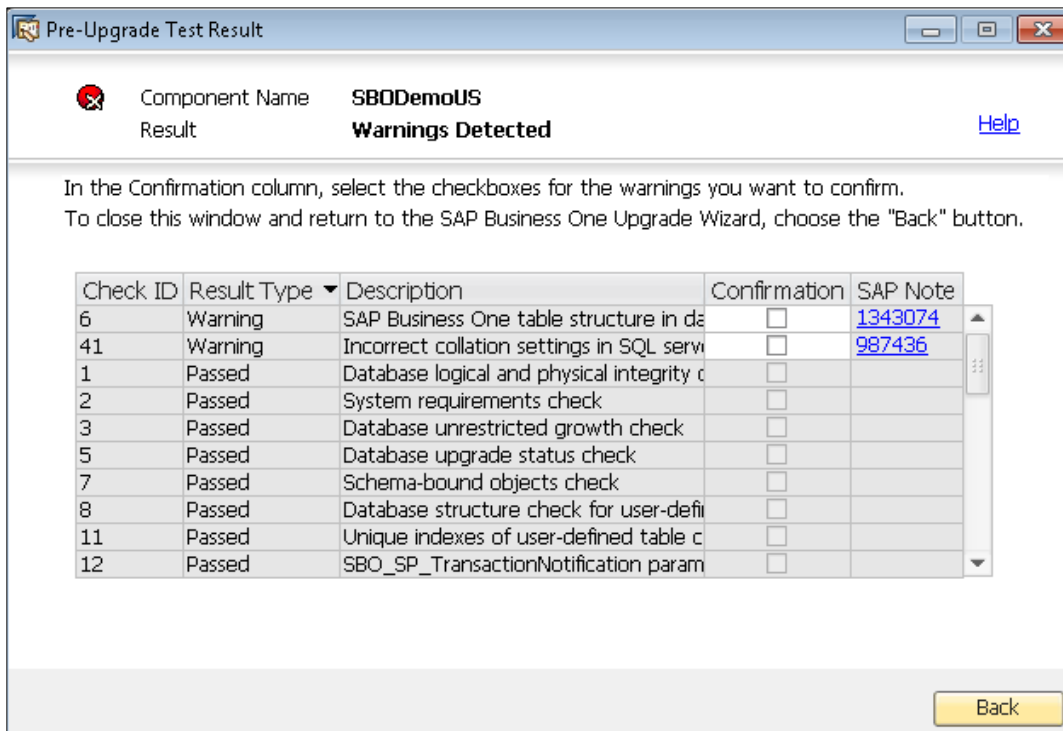
i Note

If the common database does not pass the checks, the wizard does not continue with the rest of the checks.

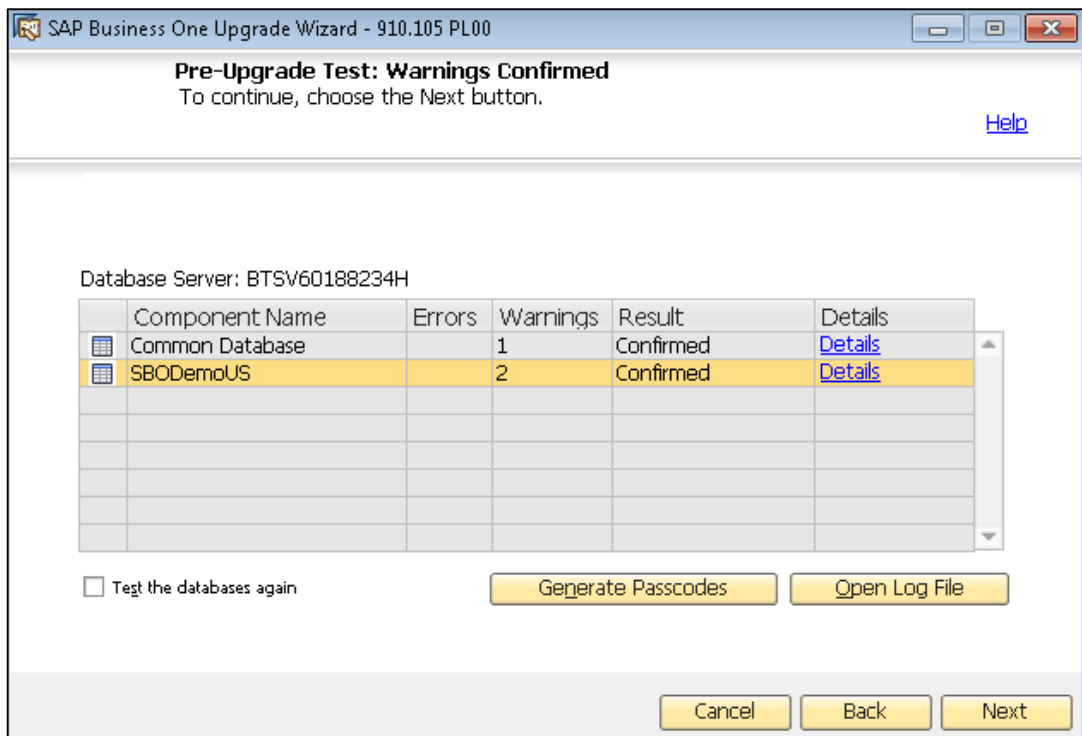
20. The *Pre-Upgrade Test* window provides a detailed overview of the results of the pre-upgrade tests. You can view information about individual checks, possible solutions to errors, and recommendations for dealing with warnings by clicking the links to the corresponding notes in the *SAP Note* column.

Depending on the results of the pre-upgrade tests, one of the following windows appears:

- o *Pre-Upgrade Test: Passed* – All components and databases successfully passed the pre-upgrade tests. Proceed to step the next step.
- o *Pre-Upgrade Test: Errors Detected* – One or more components or databases contain errors. You cannot continue upgrading. You must fix the reported errors or contact SAP for support, and then start the upgrade wizard again.
- o *Pre-Upgrade Test: Warnings Detected* – One or more components or databases contain warnings. You can still continue upgrading; however, first you must confirm all warnings, as follows:
 1. For each component or database that contains warnings, click the corresponding link in the *Details* column.
 2. The *Pre-Upgrade Test Result* window appears.



3. In the *Pre-Upgrade Test Result* window, do the following:
 - o To ignore a warning, select the corresponding checkbox in the *Confirmation* column.
 - o To fix an issue, click the corresponding hyperlink in the *SAP Note* column and follow the recommendations. After fixing the issue, select the checkbox in the *Confirmation* column.
4. After confirming all the warnings, choose the *Back* button to return to the *Pre-Upgrade Test* window.
5. After you have confirmed all warnings for all components and databases, choose the Next button to open the *Pre-Upgrade Test: Warnings Confirmed* window, and then proceed to the next step.

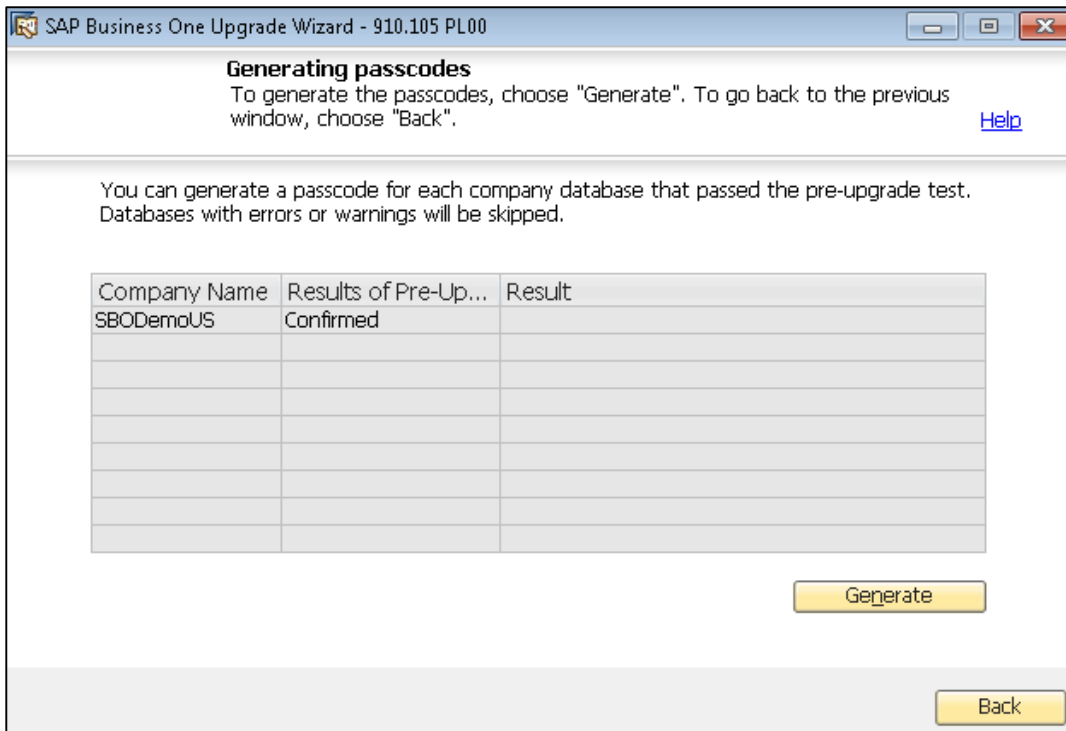


- To generate passcodes that allow you to bypass the pre-upgrade tests during the upgrade process, choose the *Generate Passcodes* button.

i Note

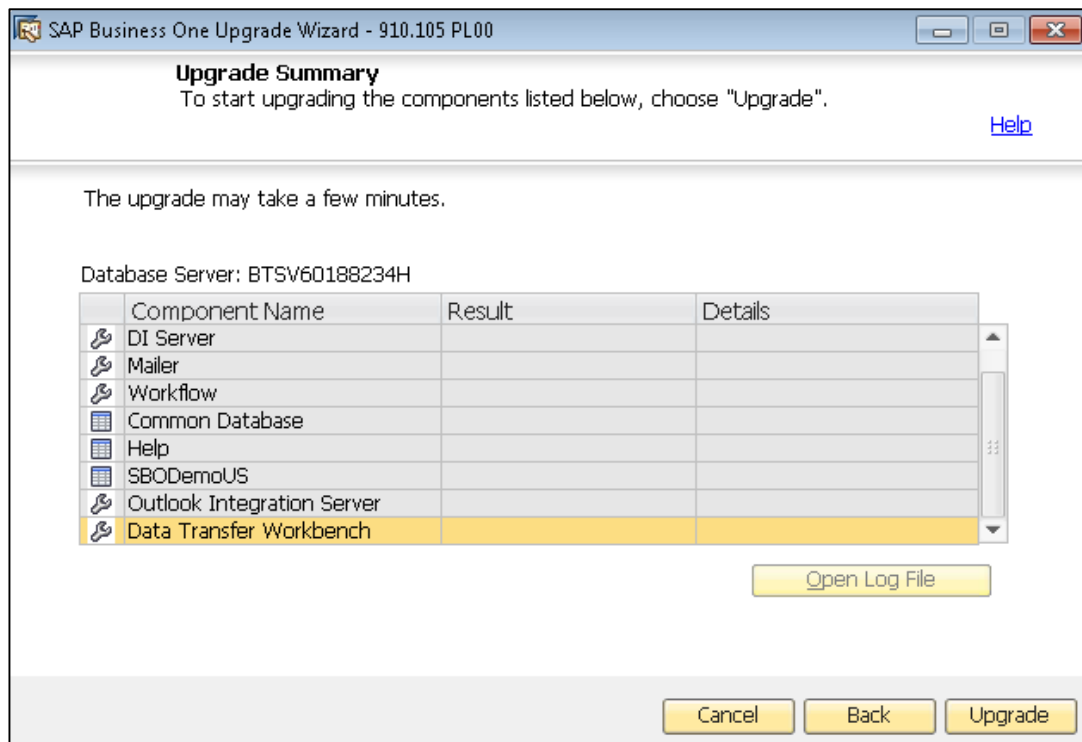
The wizard generates individual passcodes for each database, which are valid for three days. After three days, or if you make any changes to the company configuration, passcodes become invalid. Passcodes are saved in an XML file, which also contains information about the tested databases.

- In the *Generating Passcodes* window, choose the *Generate* button, and then specify a folder where you want to save the XML file containing the passcodes.



After the wizard has finished generating the passcodes, choose the [Back](#) button to return to the [Pre-Upgrade Test](#) window, and then choose [Next](#).

23. The [Upgrade Summary](#) window displays an overview of the components and databases that you have selected to upgrade.
 - o To begin the upgrade process, choose the [Upgrade](#) button.
 - o To change the settings, choose the [Back](#) button to return to the previous steps.



The *Upgrade in Process* window displays the upgrade progress of each component and database.

24. According to the upgrade results, one of the following windows appears:
 - o *Upgrade Result: Upgraded* window — If the upgrades of all components and databases succeed, this window appears. To view detailed information about the upgraded components, click the corresponding *Details* link.
 - o *Upgrade Result: Failed* window — If the upgrade of any component or database fails, this window appears.
 - o To view detailed information about the components that the wizard failed to upgrade, click the corresponding *Details* link.
 - o To continue restoring the failed components and databases, choose the *Next* button, and then proceed to the *Restoring Components and Databases* section.
25. In the *Congratulations* window, choose the *Finish* button close the wizard.

To view a detailed report about the various steps of the upgrade process, for example, databases, software components, and pre-upgrade test results, click the *Upgrade Summary* link.

6.3.3 Restoring Components and Databases

If the upgrade process fails, the SAP Business One upgrade wizard restores the databases. Software components must be restored manually.

i Note

The procedure below continues from penultimate step in the previous section, *Performing Pre-Upgrade Tests and Upgrades*. It is relevant for situations only where the upgrade has failed.

i Note

The upgrade wizard can restore only the following components:

- Common database
- Company databases (you can select which databases to restore)
- Add-ons

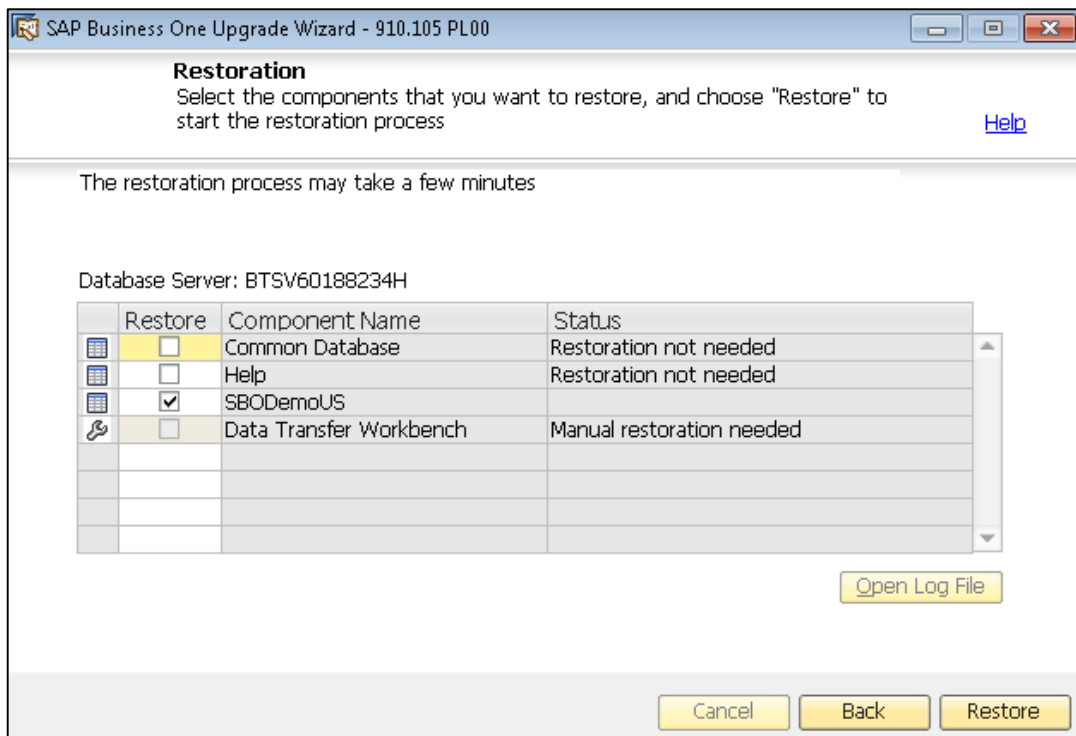
The upgrade wizard cannot restore the following components:

- DI Server
- System Landscape Directory, license manager, and Extension Manager
- Data Transfer Workbench
- DI API
- Mailer
- Microsoft Outlook integration server
- The remote support platform for SAP Business One
- Software Development Kit help and samples
- Workflow
- SAP Business One Studio Suite
- The integration framework of SAP Business One

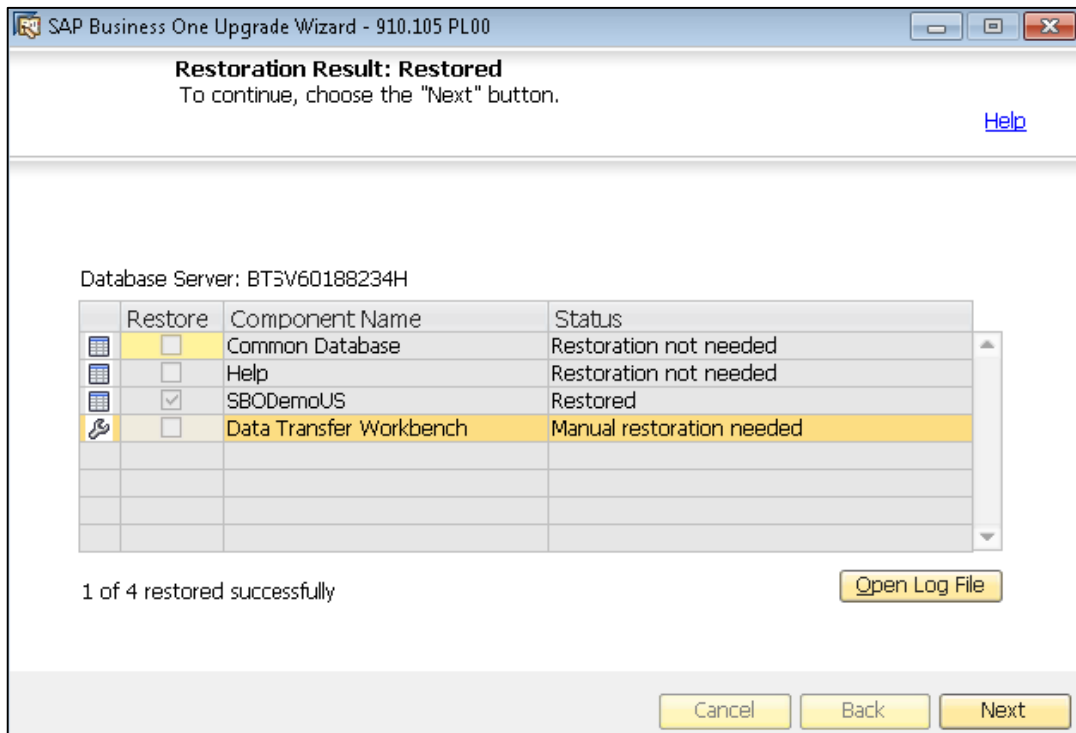
Procedure

To restore components and databases, do the following:

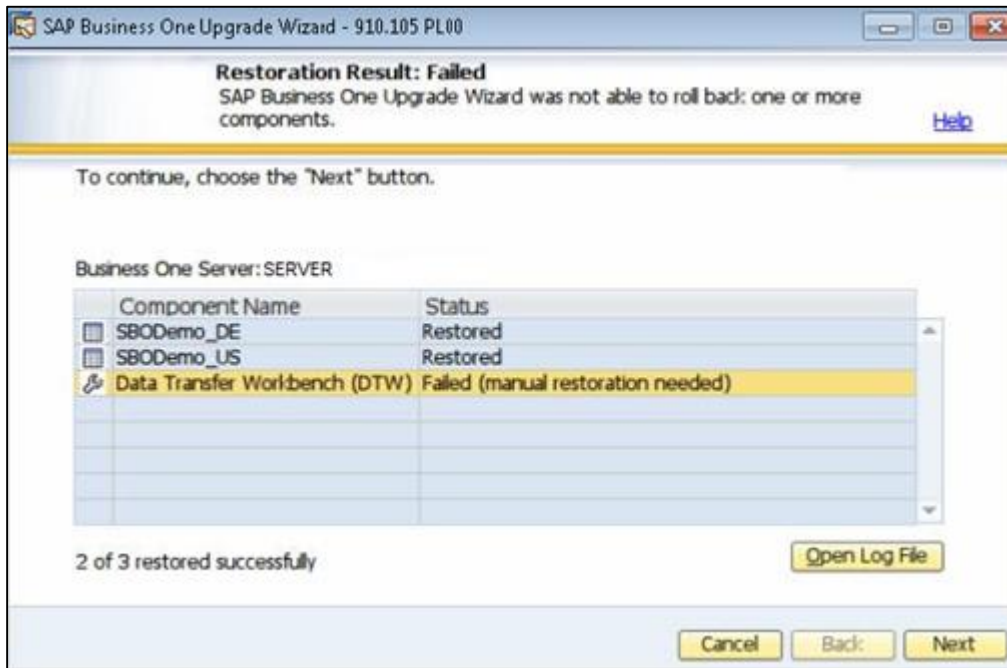
1. In the *Restoration* window, select the checkboxes of the components that you want to restore, and then choose the *Restore* button.



2. Depending on the results of the restoration process, either of the following windows appears:
 - o The *Restoration Result: Restored* window appears if the restoration is successful. To complete the restoration, do the following:
 1. In the *Restoration Result: Restored* window, choose the *Next* button.



2. In the *Congratulations* window, choose the *Finish* button to complete the restoration process.
- o If the restoration fails, the *Restoration Result: Failed* window appears. To complete the restoration, do the following:
 1. In the *Restoration Result: Failed* window, choose the *Next* button.



2. In the displayed window, choose the *Finish* button to exit.

i Note

If the restoration fails, to roll back SAP Business One to the version before the upgrade, you have to do a manual restoration.

6.3.4 Upgrading Client Workstations

After running the SAP Business One upgrade wizard, to complete the SAP Business One upgrade, you must manually upgrade your SAP Business One client workstations.

When upgrading to SAP Business One 9.1 for the first time from the 9.0 versions, you cannot directly upgrade the SAP Business One client. Instead, do the following:

1. Uninstall the previous 9.0 client from all workstations.
For more information, see [Uninstalling SAP Business One](#).
2. Manually install the SAP Business One 9.1 client on all workstations.
For more information, see [Installing the SAP Business One Client](#).

After installing the SAP Business One 9.1 client, you can perform a client upgrade to later versions from either of the following:

- From the client workstation
- From the B1_SHR folder

Prerequisites

For the first-time upgrade to SAP Business One 9.1, you must have Administrator rights on the computer. For subsequent updates to higher patch levels, this is no longer required, because the SAP Business One Client Agent, which is installed automatically with SAP Business One, performs upgrades of the client and add-ons.

Note

For the SAP Business One Client Agent to upgrade third-party add-ons in a silent mode, you must recreate the add-on's ARD file using the latest version of the Add-On Registration Data Generator. For more information, see [Enabling Silent Upgrades for Third-Party Add-Ons](#).

Recommendation

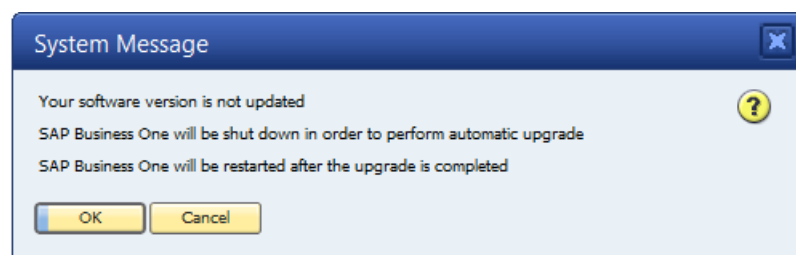
If you have installed both 32-bit and 64-bit SAP Business One clients on a client workstation, we recommend uninstalling one client and keeping only the one of your choice. Otherwise, errors might occur during the upgrade.

6.3.4.1 Upgrading from the Client Workstations

After you open your SAP Business One client following a server upgrade using the upgrade wizard, you need to perform an upgrade of the client.

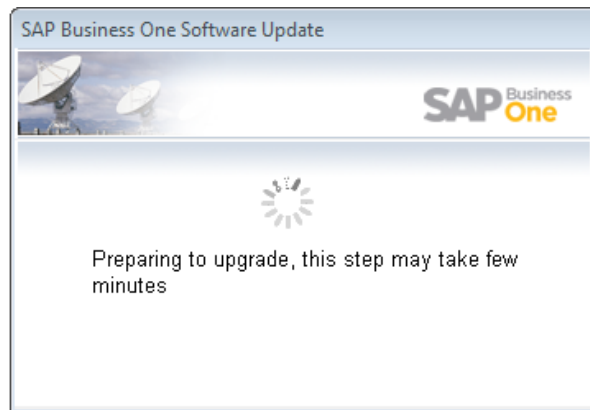
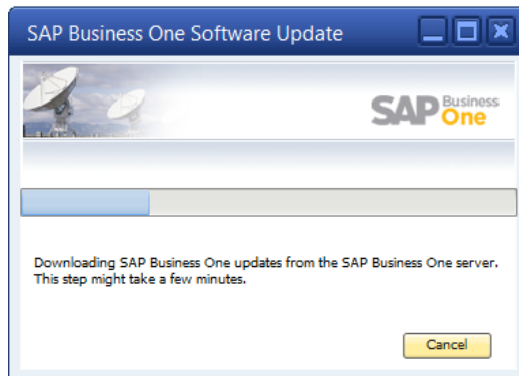
Procedure

1. To upgrade the SAP Business One client, in Windows, choose *Start* → *All Programs* → *SAP Business One* → *SAP Business One*.
2. In the logon screen, enter your user ID and password.
3. In the *System Message* window shown below, do one of the following:



- To start the upgrade of the client workstation, choose the *OK* button.

After several minutes, the following windows appear:



- o To exit SAP Business One without performing an upgrade, choose the *Cancel* button.

 **Caution**

If you choose the *Cancel* button, you cannot log on to your SAP Business One client.

 **Note**

It may take a few minutes to finish the upgrade process.

 **Note**

For more information about installing the SAP Crystal Reports software on the client computer, see [Installing Crystal Reports, Version for the SAP Business One Application](#).

When the upgrade finishes, the upgraded SAP Business One client opens.

 **Note**

If you want to install or upgrade the SAP Business One client manually in silent mode, you can use the following command line parameters:

```
setup.exe /S /z"c:\Program Files (x86)\SAP\SAP Business One Client\*127.0.0.1:30000"
```

Where:

/s means "silent mode"

`/z` is followed by installation parameters (full installation path*license server address:port)

6.3.4.2 Upgrading from the B1_SHR Folder

After performing a server upgrade with the upgrade wizard, you can upgrade each client workstation from the B1_SHR folder. This folder is usually located at the following directory path:

```
...\SAP\SAP Business One Server\B1_SHR
```

Procedure

To search your computer for the B1_SHR folder:

1. In Windows, choose *Start* → *Run*.
2. In the *Run* window, in the *Open* field, enter:
`\\<computer name>\B1_SHR`
3. Choose the *OK* button. The B1_SHR folder is displayed.

Note

The client upgrade procedure from the B1_SHR is the same as the client installation procedure. For full instructions, see [Installing the SAP Business One Client](#).

6.3.5 Upgrading SAP Add-Ons

When you select the *Add-On* checkbox in the *Component Selections* window of the upgrade wizard, the following occurs:

- New releases of all SAP add-ons, including the Microsoft Outlook integration server installer add-on, are automatically registered on the SAP Business One server.
- New installers are uploaded to the server during the upgrade of the SBO-COMMON database.

Add-ons that were already installed and assigned to a company are reregistered with new releases and assigned to the same company.

On a client computer, upon the next logon to a company assigned with add-ons, installers for the new add-on releases run automatically.

6.3.6 Upgrading the Online Help

The SAP Business One upgrade wizard automatically upgrades the online help for SAP Business One when you upgrade the common database.

The next time users access the online help on their client workstation, the SAP Business One client downloads the new version from the server.

6.3.7 Troubleshooting Upgrades

- The root user that runs the upgrade wizard has read, write, and execute permissions to the shared folder `B1_SHR` on the SAP Business One server computer.
- If you cannot connect to the license server using the server name, use the IP address of the server computer.
- When you upgrade SAP Business One, your previous SBO Mailer e-mail signature settings are automatically copied to the common database and appear in the *E-Mail Settings* window, on the *Common E-Mail Signature* tab.

To access these settings, from the SAP Business One *Main Menu*, choose *Administration* → *System Initialization* → *E-Mail Settings*.

- If you install the SAP Crystal Reports software after upgrading the SAP Business One client, execute the `SAP Business One Crystal Reports Integration Package.exe` file in `...\SAP\SAP Business One\Crystal`.

Note

The folder path shown above may be different on your computer, depending on where you have installed SAP Business One and the Crystal Reports software. You can use the Microsoft Windows search facility on your computer to locate the folder and the file.

- To have SBO Mailer's signature copied after upgrade, do the following:
 1. To open the *SAP Business One Service Manager* window, in Windows, choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.
 2. In the *SAP Business One Manager* window, from the *Service* dropdown list, select *SBO Mailer*, and then choose the *Connection* button.
 3. In the *Connection Settings* window, specify values in the *DB Type* and *DB Server* fields, and then choose the *OK* button.
 4. Log off SAP Business One and log on to SAP Business One again. You will find that the signature was copied.

6.3.8 Troubleshooting Add-On Upgrades

When upgrading add-ons in an upgraded company for which the server name was previously something like `(local)`, you may encounter a message about installation failure.

SAP Business One has introduced a license security mechanism, and we do not recommend that you specify a server name such as `(local)`. In this case, during an upgrade, the user defines the server name as an IP address or a computer name. The application does not find the previous, `(local)`, name of the upgraded company, which prevents the previous add-ons from being upgraded.

To solve this problem, do the following:

4. Go to the `...\SAP Business One\` folder and locate the `AddonsLocalRegistration.sbo` file.
5. Change the server name of each related add-on to the new name specified in the license server.

Example

- Old name: `<Common ID="1" Name="(local)"/>`
- New name: `<Common ID="1" Name="MyServerName"/>`

6.3.8.1 Enabling Silent Upgrades for Third-Party Add-Ons

To enable the SAP Business One client agent to upgrade a third-party add-on in silent mode, do either of the following:

- If your add-on needs to be installed, you must recreate the add-on's ARD file using the latest version of the Add-On Registration Data Generator to enable silent upgrades (and installations).
- If your add-on does not need to be installed, you can use the Extension Manager to manage its upgrade. For more information, see the guide *How to Package and Deploy Lightweight Extensions for SAP Business One* on sappartneredge.com.

Procedure

To enable silent upgrades using the Add-On Registration Data Generator, do the following:

1. To start the Add-On Registration Data Generator, run the `AddOnRegDataGen.exe` file, which is typically located in the `... \SAP Business One SDK \Tools \AddOnRegDataGen` folder.
2. Load an existing file, or enter the mandatory information.
3. For more information, see the *Online Help* for the SAP Business One Software Development Kit.
4. Select the *Silent Mode* checkbox.
5. If necessary, in the *Installer/Uninstaller/Upgrade Command Line* field, enter any required command line arguments.
6. Choose the *Generate File* button.

Note

You may be required to rebuild the installation package of the add-on and redesign the installation and configuration process. For example, if the add-on uses an installation wizard that requires the user to specify some information, then you can perform the configuration steps in the SAP Business One client after installing the add-on instead. Alternatively, you can provide the required information as command line arguments in the ARD file.

6.4 Performing Silent Upgrades

You can upgrade SAP Business One using a silent mode by calling `... \Wizard \Upgrade.exe` from the upgrade package.

Caution

You can use the silent mode to upgrade only the server and the integration framework. Silent upgrade of implementation tools is not supported.

To upgrade SAP Business One, provide the following argument:

```
Upgrade.exe <Config.XML> <parameter> <value>
```

Note

To obtain the required `Config.XML` file, first run the upgrade wizard in the interactive mode. After generating this file, you can make a copy and use a text editor to modify the values for future use as required.

You can find the configuration file in the `...\\%USERPROFILE%>\\Local Settings\\Application Data\\SAP\\SAP Business One\\UpgradeWizard` folder.

You can provide several different parameters, or multiple parameters, as shown in the following table.

Type	Parameter	Value
Database Server and License Server authentication	<code>-DbPassword</code>	Database server password
	<code>-SitePassword</code>	Site user password
SLD configuration	<code>-SLDCertPassword</code>	SLD certificate password
	<code>-SLDDomainPassword</code>	SLD domain user password
B1i configuration	<code>-B1iDBPassword</code>	B1i database server password
	<code>-B1iAdminPassword</code>	B1i Tomcat server administrator password
	<code>-B1iDIPassword</code>	Company password for DI calls

Example

```
Upgrade.exe "C:\\my_config\\Config.XML" -DbPassword x1Y3s -SitePassword p03kAnk3
```

6.5 Upgrading Directly from Upgrade Folders

You can upgrade the individual SAP Business One components manually by running the following files from the upgrade folder. For information about the upgrade package, see [Downloading the Upgrade Package](#).

Caution

This option is not recommended and only for advanced users.

- Server components
 - Server Tools – `...\\Packages\\Server Tools\\Setup.exe`
 - Common Upgrade – `...\\Packages\\Upgrader Common\\Upgrade.exe`
- Client components
 - Mail and Fax Service – `...\\Packages\\Server Tools\\Setup.exe`
 - SDK – Manually uninstall and then upgrade using the SDK InstallShield installer under `...\\Packages\\SDK\\Setup.exe`
 - Data Transfer Workbench – Manually uninstall and then upgrade by using the Data Transfer Workbench InstallShield installer under `...\\Packages\\Data Transfer Workbench\\Setup.exe`

-
- o Microsoft Outlook integration add-on – Manually uninstall and then upgrade using the DTW InstallShield installer under ...\Packages\Outlook Integration standalone\Setup_OIS.exe

7 Performing Post-Installation Activities

Immediately after installing SAP Business One, you are required to perform the following activities:

- Configuring services
- Installing the license key
- Configuring SAP Business One clients
- Assigning SAP Business One add-ons
- Installing the Outlook integration standalone version
- Performing post-installation activities for the integration framework

Recommendation

We also recommend you configure a backup strategy for databases and application folders. For more information, see [Backing Up Databases](#).

You can use the remote support platform for SAP Business One to automatically backup data according to a defined strategy. For more information, see the Online Help for the remote support platform.

7.1 Configuring Services

You must configure the services you have installed if they are to operate properly.

Note

The first time you configure any service in the service manager, you must enter the site user password. This is not for authentication purposes, but to obtain the database password. After entering the site user password once, you do not have to enter it again when configuring other services.

The subsections below introduce how to configure the following SAP Business One services:

- SBO DI Server
- License Manager
- SBO Mailer
- Fax service

7.1.1 SBO DI Server

This optional service enables multiple clients to access and manipulate the SAP Business One company database. To use it, you are required to have a special license.

For more information, see the SDK Help Center.


7.1.2 Configuring the License Manager

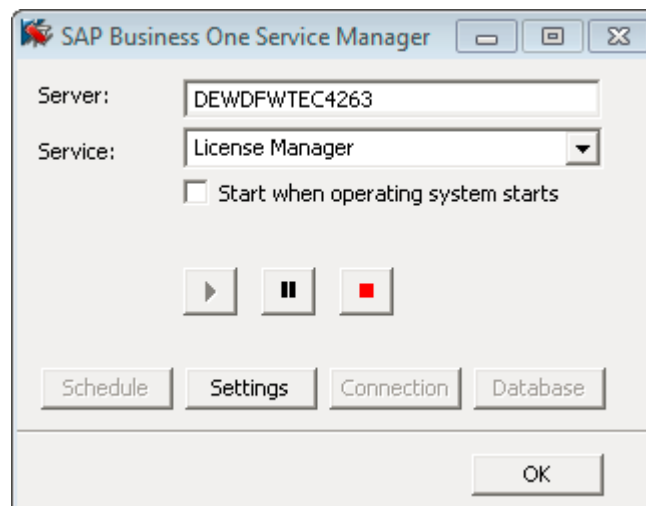
Configuring the license manager is essential for the successful operation of SAP Business One. This service manages license requests and lets you install a license key, which is required to run SAP Business One, according to your contract.

For new installations, you can use the application for a period of 31 days without a license key. After that period, the SAP Business One application needs a license key to run.

We strongly recommend that you request a license key immediately after installing the application.

Procedure

1. To open the *SAP Business One Service Manager* window, in the Microsoft Windows task bar, double-click  (SAP Business One Service Manager).
Alternatively, in Windows, choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.
2. From the *Service* dropdown list, select *License Manager* and choose the *Settings* button.



3. The *General Settings* window displays information about the license service. Choose the *Connect* button.


Note

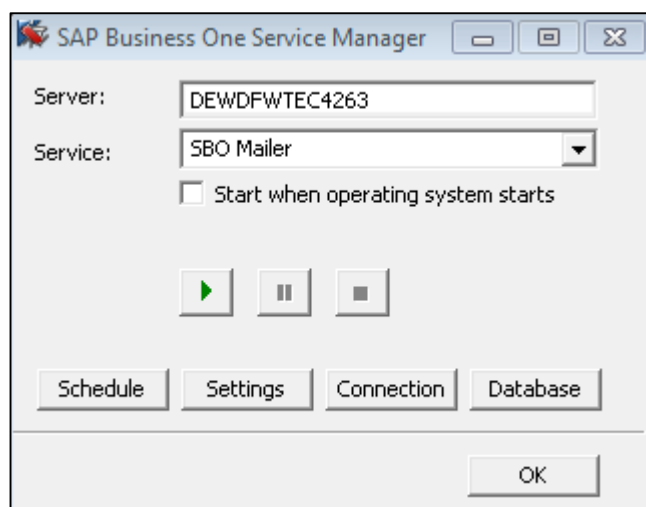
If you installed the license service on the SAP Business One server, SAP Business One sets localhost by default. Otherwise, you must enter a name or IP address of the server. We recommend that do you not change the default port number.

Caution

If you have installed a firewall on the machine running the license service, ensure that the firewall does not block ports 30000–30010; otherwise, the license service and SLD cannot work.

If you are using Port X, ensure that you open ports from Port X to Port (X+10) in the firewall. For example, if you are using port 10000, ensure to also open ports 10001, 10002, 10003 ... 10010.

4. To save your settings and close the *General Settings* window, choose the *OK* button. If you already have a license key file, you can continue to *Installing License Key*.
5. Choose  (Play) and select the *Start when operating system starts* checkbox.



7.1.3 Configuring SBO Mailer

The process of configuring SBO Mailer comprises of the following steps:

- Starting SBO Mailer
- Defining the mail settings
- Connecting to the database
- Selecting company databases
- Setting the mail processing schedules


Prerequisites

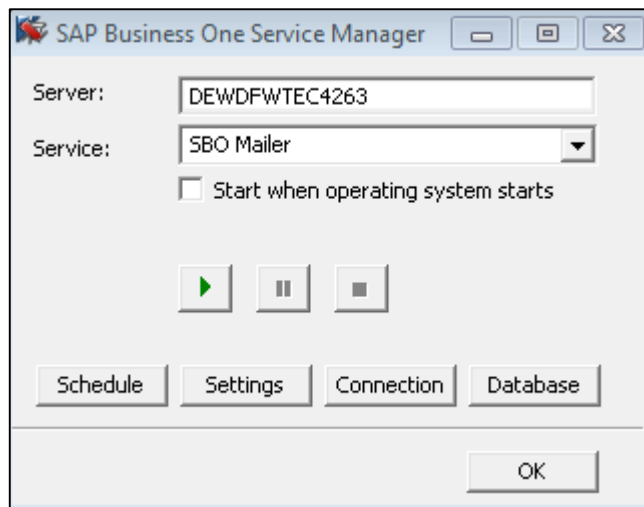
You have installed the SBO Mailer service.


For information, see *Installing the SAP Business One Server*.

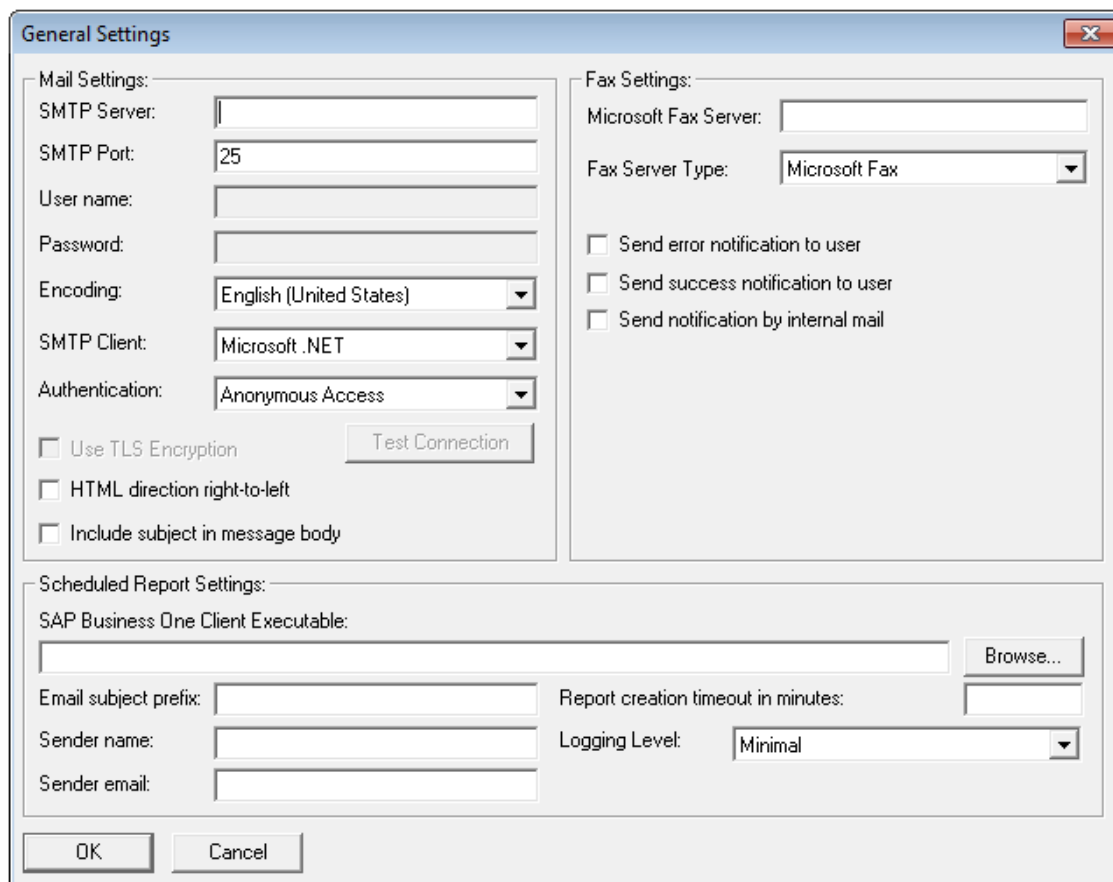
Procedure

Start SBO Mailer:

1. To open the *SAP Business One Service Manager* window, in the Microsoft Windows task bar, double-click  (SAP Business One Service Manager).
Alternatively, in Windows, choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.
2. From the *Service* dropdown list, select *SBO Mailer*.



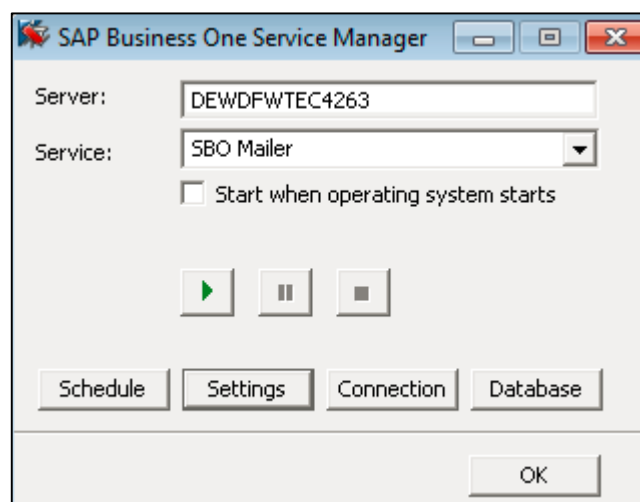
3. Choose  (Play) and select the *Start when operating system starts* checkbox.
4. Define mail settings:
 1. In the *SAP Business One Service Manager* window, choose the *Settings* button. The *General Settings* window appears.



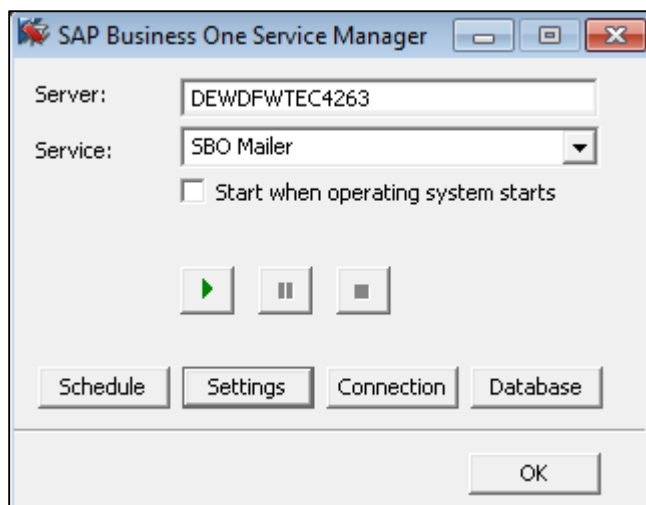
2. In the *General Settings* window, specify the following:
 - *SMTP Server* — Enter the name or IP address of your outgoing mail server. To make changes in this field later, you must stop the Mailer service.
 - *SMTP Port* — Specify the port number for mail services.
 - *Encoding* — Select the language for e-mail text.
 - *HTML direction right-to-left* — Select this checkbox if you are using a right-to-left language to define the direction of the e-mail text.
 - *Include Subject in Message Body* — Select this checkbox to include the subject line in the body of the message.
 - *Fax Settings* — Select the required fax service. For more information, see *Configuring Fax Services*.

Scheduled Report Settings - Specify the required information for configuring SBO Mailer for report scheduling and mailing. For more information, see *Configuring Report Scheduling*.

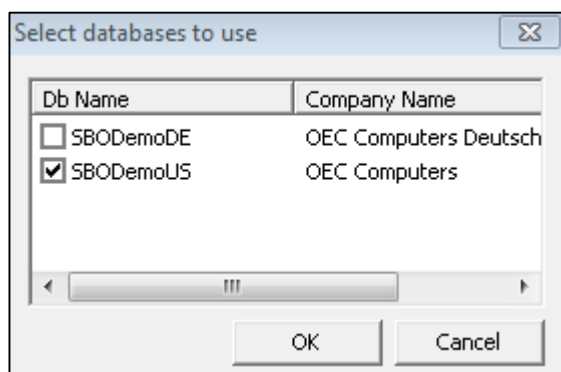
5. Connect to the database:
 1. In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *SBO Mailer*, and then choose the *Connection* button.



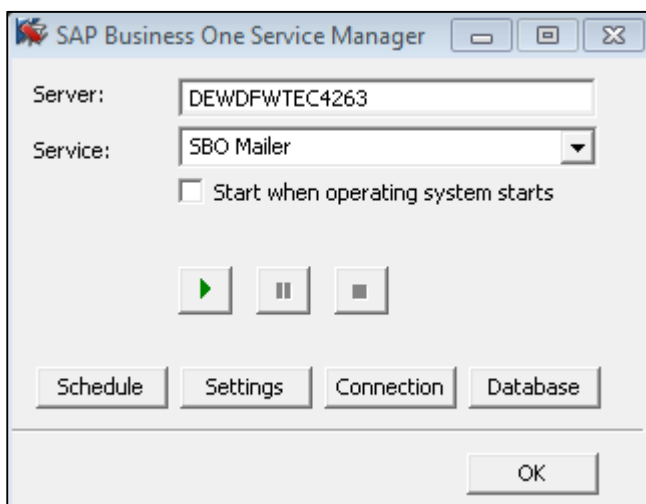
2. In the *Connection Settings* window, do the following:
 1. To connect to a database, specify a valid user name and password.
 2. To use Windows authentication, select the *Use Trusted Connection* checkbox.
 3. Choose the *OK* button.
6. Select a database:
 1. In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *SBO Mailer*, and then choose the *Database* button.



2. In the *Select databases to use* window, select the databases for which you want to enable mailing services, and then choose the *OK* button.



3. In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *SBO Mailer*, and then choose the *Settings* button.



4. In the *General Settings* window, in the *Mail Settings* area, select components according to your network definitions, and then choose the *OK* button.

i Note

As of the SAP Business One 2007 A SP01 release, the SAP Business One Service Manager window does not provide access to SBO Mailer e-mail signature settings.

To access these settings, from the SAP Business One *Main Menu*, choose *Administration* → *System Initialization* → *E-Mail Settings*.

General Settings

Mail Settings:

SMTP Server:

SMTP Port:

User name:

Password:

Encoding:

SMTP Client:

Authentication:

Use TLS Encryption

HTML direction right-to-left

Include subject in message body

Fax Settings:

Microsoft Fax Server:

Fax Server Type:

Send error notification to user

Send success notification to user

Send notification by internal mail

Scheduled Report Settings:

SAP Business One Client Executable:

Email subject prefix:

Report creation timeout in minutes:

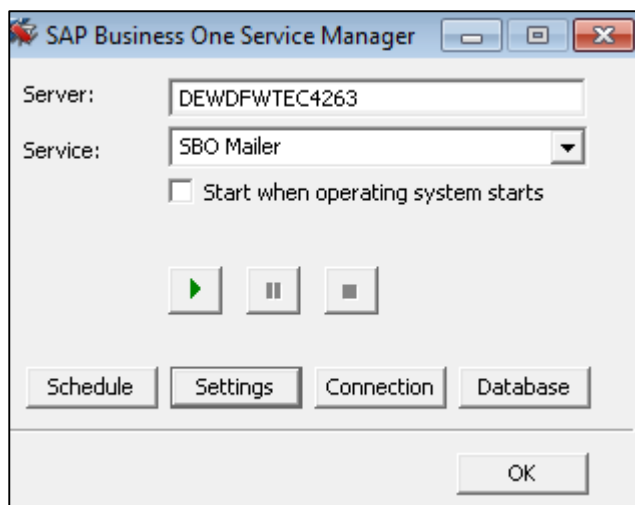
Sender name:

Logging Level:

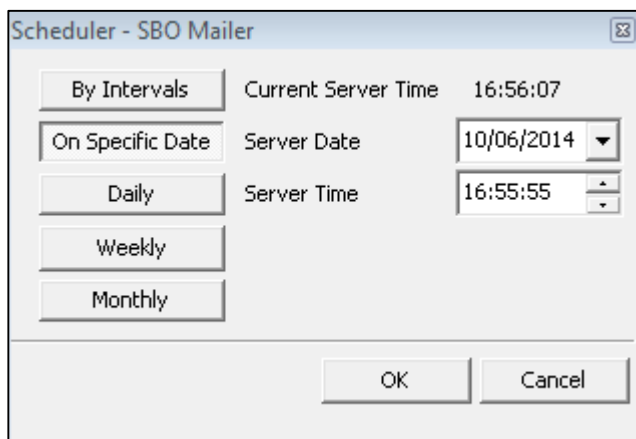
Sender email:


7. Set the mail processing schedules:

1. In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *SBO Mailer*, and then choose the *Schedule* button.



2. In the *Scheduler – SBO Mailer* window, select one of the following options:
 - o *By Intervals* – Sets mail and fax processing to start regularly every x hours and y minutes.
 - o *On Specific Date* – Defines mail and fax processing for a specific date and time.
 - o *Daily* – Sets mail and fax processing for a fixed hour of each day.
 - o *Weekly* – Sets mail and fax processing for a fixed hour on a fixed day of each week.
 - o *Monthly* – Sets mail and fax processing for a fixed hour on a fixed day of each month.
8. Choose the *OK* button to return to the *SAP Business One Service Manager* window.



9. In the *SAP Business One Service Manager* window, choose  (Play), and select the *Start when operating system starts* checkbox.
10. To close the *SAP Business One Service Manager* window, choose the *OK* button.

7.1.4 Configuring Fax Services

SAP Business One offers fax services through Microsoft Fax Services. For more information, see *How To Install and Configure Microsoft Fax Services* on sappartneredge.com.

This service can send several attachments as separate fax messages, added to a fax message. For supported file types, see the Microsoft documentation at www.msdn.microsoft.com.

7.1.5 Configuring Report Scheduling

The report scheduling function of SAP Business One allows you to schedule report execution and send generated reports via e-mail. To do so, you must first define the mail settings and scheduled report settings. For more information, see *How to Schedule Report Execution and Mailing* on sappartneredge.com.

7.1.6 Troubleshooting

The following troubleshooting information may be helpful when configuring the mail services:

- Ensure that you have already set up an e-mail account for the SAP Business One users on your mail server.
- To verify the connection with the mail server, choose the *Test Connection* button.

The mail service checks the connection with the specified mail server and e-mail account and displays an appropriate message.

- If the SMTP server requires authentication, for example, if the SMTP server is configured to accept only logon-authenticated mails, you must not select the *Anonymous Access* option in the *Mail Settings* area.
- To check whether the connection to the SMTP server works, send a test e-mail. If the connection fails, ensure that you have done the following:
 - Entered the correct name of your mail server
 - Entered the correct user ID and password
 - Restarted the SBO-Mailer service after changing any of the settings

7.1.7 SAP Business One Workflow

The workflow service enables you to standardize your business operations to increase overall efficiency. With predefined conditions, the system automatically executes various tasks, liberating labor resources for more creative activities.

For more information, see *How to Configure the Workflow Service and Design the Workflow Process Templates* at <http://service.sap.com/smb/sbocustomer/documentation>. The guide includes samples and additional reference materials.

7.2 Configuring the SAP Business One Client

After you have installed SAP Business One and logged on to the application for the first time, you must provide the license server address and port number in the *License Server Selection* window.

To start the SAP Business One client, choose [Start](#) → [All Programs](#) → [SAP Business One](#) → [SAP Business One Client](#). To start the SAP Business One Client using the command line, enter the following command:

```
"SAP Business One.exe" -DbServerType <Microsoft SQL Server version> -Server <Microsoft SQL Server instance name> -CompanyDB <Company Database> -UserName <User ID> -Password <Password> -LicenseServer <License Server address:port>
```

For the `DbServerType` parameter, depending on version of Microsoft SQL Server you are using, enter one of the following:

- For Microsoft SQL Server 2014, enter **8**.
- For Microsoft SQL Server 2012, enter **7**.
- For Microsoft SQL Server 2008, enter **6**.
- For Microsoft SQL Server 2005, enter **4**.

 **Note**

Command line parameters are case-sensitive.

 **Caution**

For security reasons, do not start the SAP Business One client using the command line in productive environments. You should use this method only for testing.

In the SAP Business One toolbar, you can check the log configurations by choosing [Help](#) → [Support Desk](#) → [Logger Setting](#). You can see the relevant configuration log file under `...\SAP\SAP Business One\Conf\B1logconfig.xml`.

7.3 Installing License Keys

To use your SAP Business One application according to your contract, you are required to install a license key assigned by SAP.

You also must install a new license key when:

- You add additional users or components.
- The hardware key changes.
- The current license key expires.
- You have a new installation of SAP Business One.


To avoid changing the hardware key accidentally, do not perform the following actions on the machine running the license server:

- Formatting the computer and reinstalling Microsoft Windows using another product key
- Changing the computer name
- Changing the domain (hardware key does not change back when you return to the previous domain)

The following actions are safe and do not change the hardware key:

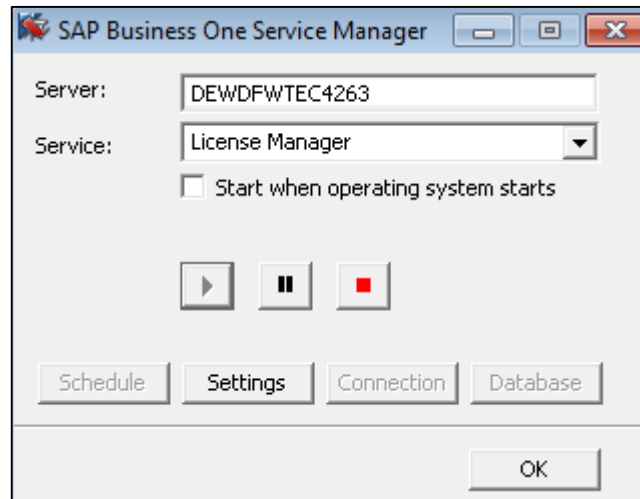
- Adding a new user logon
- Changing the computer date or time

Procedure

1. To open the *SAP Business One Service Manager* window, in the Microsoft Windows task bar, double-click  (SAP Business One Service Manager).

Alternatively, in Windows, choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.

In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *License Manager* and choose the *Settings* button.

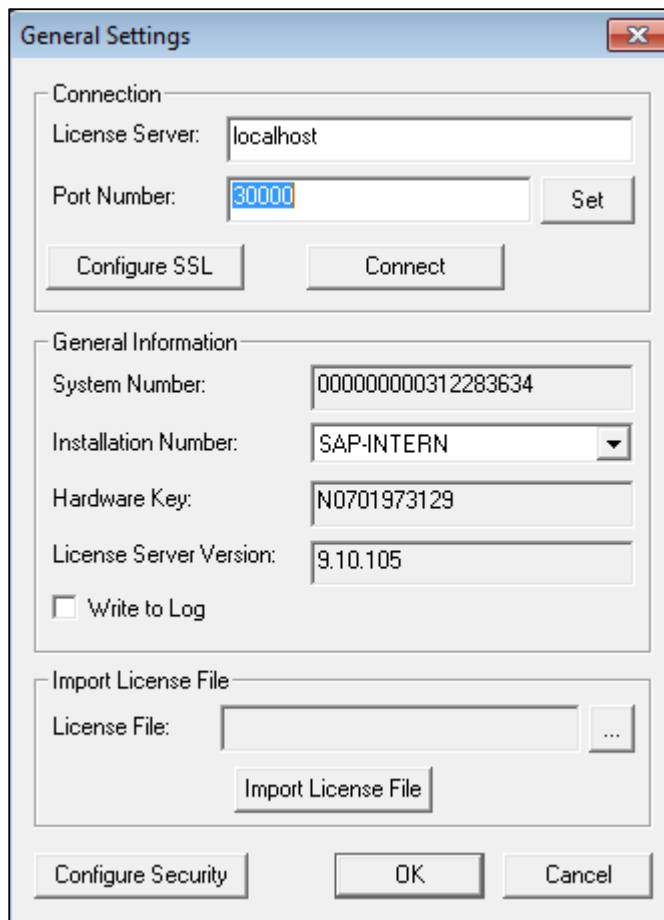


2. In the *General Settings* window, do the following:
 1. Enter the name or IP address of the machine on which the server tools are installed.

Note

Use localhost only in standalone installations.

2. To install the license key file, choose the *Browse* button and select the txt file you received from SAP.



3. Choose the *Import License File* button.
4. To save your settings and close the *General Settings* window, choose the *OK* button.
5. To complete the process and close the *SAP Business One Service Manager* window, choose the *OK* button.

7.4 Assigning SAP Business One Add-Ons

Add-ons are additional components or extensions for SAP Business One. Installing the server and client applications automatically registers the SAP add-ons and makes them available for installation from the SAP Business One application. The application automatically registers the following add-ons:

- 32-bit add-ons:
 - DATEV FI Interface
 - Electronic File Manager
 - Microsoft Outlook integration
 - Payment Engine
 - Screen Painter
- 64-bit add-ons:
 - Electronic File Manager

- Microsoft Outlook integration
- Payment Engine
- Screen Painter



Note

As of SAP Business One 9.1 PL03, the ELSTER Electronic Tax Return add-on is available for download in the SAP Business One Software Download Center and is no longer included in the SAP Business One download package. For more information, see SAP Note [2064562](#).

Prerequisites

- You have a Professional license from SAP.
- You have installed Microsoft XML 3.0 Service Pack 4 on your workstation. To ensure that this software is installed on the hard drive of the workstation, check that the msxml3.dll file is saved in the system32 directory in the main Windows directory.
- If you chose Custom for the installation of server components, ensure that SAP Add-ons is selected in the Select Features window.
- You must have Power User or Administrator rights, especially in the terminal server environment.

The following table displays the SAP Business One add-ons and their prerequisites.

Add-On	Prerequisites
Payment Engine	Inbound Functionality is activated only when the Bank Statement Processing checkbox is deselected.
Screen Painter	You have installed Microsoft .NET Framework 2.0 on the SAP Business One workstation intended to run Screen Painter.
Microsoft Outlook integration	<ul style="list-style-type: none"> • You have installed Microsoft Outlook on your workstation. Supported versions: 2000 SR1 and higher, 2002, 2003, 2007, 2010, 2013, 2016 <p> Caution</p> <p>32-bit and 64-bit versions of Microsoft Office are available. If you are using the 32-bit version of Microsoft Office, install the 32-bit versions of SAP Business One and Microsoft Outlook integration add-on. If you are using the 64-bit version of Microsoft Office, install the 64-bit version of SAP Business One and Microsoft Outlook integration add-on.</p> <p>It is possible to run the 32-bit version of Microsoft Office with the 64-bit version of SAP Business One, however, in this scenario, Microsoft Outlook integration is not possible.</p> <p> Note</p> <p>After installing the Microsoft Outlook integration add-on, the <i>SAP Business One</i> entry appears in the <i>Add-Ins</i> menu of the following Microsoft Office applications:</p> <ul style="list-style-type: none"> ○ Microsoft Outlook

Add-On	Prerequisites
	<ul style="list-style-type: none"> ○ Microsoft Word ○ Microsoft Excel ● After installing Microsoft Outlook, you created an e-mail account for sending and receiving e-mails. ● Microsoft Outlook is set as your default mail client. To check your default mail client, open the <i>Control Panel</i> window, and choose <i>Internet Options</i>. On the <i>Programs</i> tab, ensure that in the <i>E-mail</i> field, <i>Microsoft Outlook</i> is selected. <p>For more information about how to use the feature, see the Microsoft Outlook integration online help. The help is available in the <i>Add-Ins</i> menu of the above Microsoft Office applications and from within the relevant windows in the SAP Business One client application (by pressing F1 in the windows).</p>
Datev FI Interface	<p>You have created a new company to work with the DATEV add-on and deselected the checkboxes: Copy User-Defined Fields and Tables and Copy User-Defined Objects.</p> <p>The DATEV add-on may not work with demo databases.</p>

7.4.1 Constraints

When you run SAP Business One, you can use only SAP Business One add-ons valid for the version of the application you are running.

If you are using the 32-bit version of the SAP Business One client, you can install and run only 32-bit add-ons. If you are using the 64-bit version of the SAP Business One client, you can install and run only 64-bit add-ons.

The add-ons run under the SAP Add-Ons license, which is included in the Professional User license.

Procedure

For information about how to assign SAP add-ons, see the *Assigning Add-Ons* online help document.

You can find the online help document at the following locations:

- Partners — SAP Channel Partner Portal on sappartneredge.com
- Customers — SAP Business One Customer Portal at <http://service.sap.com/smb/sbocustomer/documentation>

7.5 Performing Post-Installation Activities for the Integration Framework

After installation is complete, you can begin using the integration framework. No mandatory post-installation activities are necessary.

However, for certain use cases, you need additional settings in the integration framework. The following sections provide information about additional configuration options and settings you can check to ensure a correct setup.

i Note

The integration framework is implemented as a Microsoft Windows service with the *SAP Business One Integration Service* identifier. The service starts automatically after successful installation.

If you cannot start the integration framework, stop and restart the service.

You can locate the service by choosing *Start* → *Control Panel* → *Administrative Tools* → *Services*.

7.5.1 Maintaining Technical Settings in the Integration Framework

Procedure

1. In Microsoft Windows, choose *Start* → *All Programs* → *Integration solution for SAP Business One* → *Integration Framework*.

The *Administrative Logon* user interface opens.

2. In the *B1i User* field, enter **B1iadmin** and in the *Password* field, enter the password that has been provided during installation.

Note that entries in the *B1i User* field are case-sensitive.

3. To add or change integration framework technical settings, in the integration framework, choose *Maintenance*.
 - o To define proxy settings for your network and provide connection information for your e-mail server, choose *Cfg Connectivity*.
 - o To get an overview about configuration information for message exchange between SAP Business One and the integration framework and about integration packages setup, choose *Tools* → *Troubleshooting*, and in the *Functional Group* field, choose *B1 Setup*.

For more information about maintenance functions, in the integration framework choose *Help* → *Documents* → *Operations Part 2*, section *System Administration*.

7.5.2 Maintenance, Monitoring and Security

Monitoring

For technical monitoring purposes, choose *Start* → *All programs* → *Integration solution for SAP Business One* → *Integration Framework*, and in the integration framework, choose *Monitoring*.

You can use the message log, access the error inbox, display SAP Business One (B1) events and use other monitoring functions.

By default, the message log is active after installation. We recommend deactivating the message log in a productive environment.

For additional documentation, choose [Start → All programs → Integration solution for SAP Business One → Integration Framework](#), and then choose [Help → Documents → Operations Part 1](#) and [Operations Part 2](#).

System Landscape Directory (SLD)

To maintain systems connecting to the integration framework, choose [Start → All programs → Integration solution for SAP Business One → Integration Framework](#), and then choose [SLD](#).

For all integration packages, SAP delivers the necessary system entries in SLD.

In SLD, make sure that you keep the entry in the [b1Server](#) field for the SAP Business One system in sync with the entry in the [associatedSrvIP](#) field for the [WSforMobile](#) system.

Integration with SAP Business One integration for SAP NetWeaver

If your SAP Business One is connected as a subsidiary to the SAP Business One integration for SAP NetWeaver server, it is necessary to add entries to the event subscriber manually.

To configure the SAP Business One event subscriber to send events to a remote integration framework server, choose [Start → All programs → Integration solution for SAP Business One → Integration Framework](#), and then choose [Maintenance → Cfg B1 Event Subscriber](#).

For more information, click the documentation (Book) icon in the function.

Security Information

The integration framework security guide gives you information that explains how to implement a security policy and provides recommendations for meeting security demands for the integration framework.

For more information, choose [Start → All programs → Integration solution for SAP Business One → Integration Framework](#), and then choose [Help → Documents → Operations Part 2](#), section [Integration Framework Security Guide](#).

7.5.3 Technical B1i User

SAP Business One creates a user with the `B1i` user code for each company database. The default process requires that you set the same password for each company database. The integration framework uses the `B1i` user to connect to SAP Business One (for example, to check authentication when using the mobile solution). Ensure that the password that you provided during installation of the integration framework is the same you set in SAP Business One.

7.5.4 Licensing

Ensure that the SAP Business One `B1i` user has been assigned with the following two free licenses:

- B1iINDIRECT_MSS
- B1i

No additional licenses are required for the B1i user.

Mobile users must be licensed to access the SAP Business One system through the mobile channel. License administration is integrated with the SAP Business One user and license.

7.5.5 Assigning More Random-Access Memory

We recommend checking the performance aspects in the related documentation.

Choose *Start* → *All programs* → *Integration solution for SAP Business One* → *Integration Framework*, and then choose *Help* → *Documents* → *Operations Part 2*, section 2.

If you expect your system to run under very high load and to process a high amount of messages, you can assign more random-access memory (RAM) to the integration framework server to improve performance.

Procedure

1. On your local drive C:\Program Files\SAP\SAP Business One Integration\IntegrationServer\tomcat\bin\ double-click *tomcat6w.exe*.
If the system denies access, select *tomcat6w.exe*, open the context menu and select the *Run as Administrator* option.
2. Select the *Java* tab, and increase the maximum memory pool amount as follows:
 - In a 32-bit operating system, Tomcat supports a maximum memory pool of 1024 MB.
 - In a 64-bit operating system, the default is 2048 MB for the maximum memory pool amount for Tomcat, you can assign more RAM.

7.5.6 Changing Integration Framework Server Ports

By default, the integration framework server uses port 8080 for http and 8443 for https. If another application is already using one of these ports, change the integration framework ports.

Procedure

1. If *SAP Business One Event Sender Service* is already running, stop the service.
2. In the ...\\Program Files (x86)\\SAP\\ Integration Solution for SAP Business One\\IntegrationServer\\Tomcat\\conf folder, double-click the *server.xml* Tomcat file and in the *connector port* tag, change the settings as necessary. Do not change any other settings in the file.
3. Log on to the integration framework, choose *Maintenance* → *Cfg Runtime* and change the port or ports. The integration framework also updates the setting in the *SLSPF* table in SAP Business One.
4. Restart the *SAP Business One Integration Service*.

5. Choose *Start → All Programs → Integration solution for SAP Business One → EventSender → Setup*, follow the steps of the wizard and in the *Configure B1i Parameters* section, change the *B1i Server Port* entry, and then test the connection.
6. Restart the *SAP Business One EventSender Service*.
7. To change the properties for the menu entry, choose *Start → All programs → Integration solution for SAP Business One → Integration Framework*. Be sure to use the correct port number.

7.5.7 Changing Event Sender Settings

SAP Business One writes events for new data, changes and deletions to the `SEVT` table. Based on filter settings, the event sender accesses the table, retrieves data and hands over the events to the integration framework for further processing.

The installation program installs and sets up the event sender on the SAP Business One server. The following section describes event sender settings, although usually no further changes are required.

Note

Only call the event sender setup in the following cases:

- You must change the password for database access.
- You have changed the B1iadmin password for the runtime user.
- You have moved to another server.
- To reduce the message load, you want to include or exclude some objects.
- You want to exclude users.

To check the settings for the event sender, use the integration framework troubleshooting function. In the integration framework, choose *Tools → Troubleshooting*, and in the *Functional Group* field, choose *Event Sender*.

Procedure

1. To call the event sender setup, choose *Start → All Programs → Integration Solution for SAP Business One → EventSender → Setup*.
2. In step 1, in the *Choose a DB Type* field, select the SAP Business One database type.
3. In the *DB Connection Settings* section, you can set the following:
 - In the *DB Server Name* field, enter the computer name or IP address of the machine, where the database of the SAP Business One server is installed. Do not use `localhost`.

Recommendation

Use the hostname of the server. Only if you have problems specifying the hostname, use the IP address instead.

Caution

In the SAP Business One integration for SAP NetWeaver installation, this setting must be identical with the value in the *b1Server* field. If the values are not identical, they appear in the `Filtered` section.

- In the *Port* field, enter the port number of the database server, where the SAP Business One server is installed.
 - In the *Setup DB Account* and *Password* fields, the installation has set the database user name and password for database access during setup.
This user must have access rights to create tables and store procedures.
 - In the *Running DB Account* and *Password* fields the installation has set the database user name and password for database access at runtime.
This user must have access rights to the event log and event lock tables.
 - If you want to use the Microsoft Windows authentication mechanism to connect to the database, select the *Trusted Connection* option.
If you select this option, you do not have to specify the *Setup DB Account*, *Running DB Account* and *Password* fields.
4. In step 2, the following settings are available in the *Monitor Settings* section.
- In the *Idle Time (millisecond)* field, you can change the time period the event sender waits until it polls events from SAP Business One.
The default is 3000 milliseconds.
 - In the *Batch Count* field, you can set the number of events the event sender polls each time.
The default is 10.
5. In step 3, you can change general settings for the integration framework.
By default, the installation program sets the *Sending Method to Direct*.
- If you select the **Direct** method, the event sender directly sends events to a dedicated server address. This can either be an integration framework server or the SAP Business One integration for SAP NetWeaver server.
 - If you select the **Distributed** method, the event sender sends all events to the local server address and the event dispatcher takes over the task of distributing the events to other systems. Before selecting this method, make sure that you have configured the event subscriber.
For more information, see the *Operations Guide Part 2*, section *Configuring the B1 Event Subscriber*
6. In the *General B1i Settings*, you can configure the following:
- In the *Protocol Type* field, select the protocol for the connection between the event sender and the integration framework. To enable https, make settings in the Tomcat administration.
 - In the *Authentication* field, always use the **Basic** option. This is the default.
 - In the *B1i Server* field, enter the name or IP address of your integration framework or the SAP Business One integration for SAP NetWeaver server.
 - In the *B1i Server Port* field, enter the port number of your integration framework or the SAP Business One integration for SAP NetWeaver server.
 - If you work in a network with a proxy, in the *Proxy Host* field, enter the name or IP address of your network proxy.
 - If you work in a network with a proxy, in the *Proxy Port* field, enter the port number of your network proxy.
 - In the *User Name* field, enter the user name for accessing the integration framework or SAP Business One integration for SAP NetWeaver server. The default is **B1admin**.
 - In the *Password* field, enter the password for accessing the integration framework or SAP Business One integration for SAP NetWeaver server.
 - To test the connection, choose the *Test Connect...* button.
7. In step 4, choose the company databases.

The setup program displays the company databases in your SAP Business One system. For each company database, you can set up the following:

1. Deselect the checkbox in front of the SAP Business One company database, if the company does not use the integration framework. If you deselect the checkbox, SAP Business One does not create events for the company database in the SEVT table.
2. To define for which SAP Business One objects the event sender sends events, chose the *Event Filter* button.

- o In the *Include List B1 Object(s)* field, enter the object identifier of the SAP Business One object or objects. Separate entries by comma.

If you enter, for example **22 , 17**, the event sender sends events for purchase orders and orders to the integration framework or the SAP Business One integration for SAP NetWeaver server.

If you leave the field empty, the event sender sends events for all SAP Business One objects to the integration framework or the SAP Business One integration for SAP NetWeaver server.

- o In the *Exclude List B1 Object(s)* field, enter the object identifier of the SAP Business One object or objects. Separate entries by comma.

If you enter for example **85** the event sender excludes events for special prices for groups.

If you leave the field empty, the event sender sends events for all SAP Business One objects to the integration framework or the SAP Business One integration for SAP NetWeaver server.

i Note

Use either the *Include B1 Object(s)* or the *Exclude List B1 Object(s)* function. Do not use the functions together.

- o In the *Exclude List B1 User* field, enter SAP Business One users for which the event sender does not send events to the integration framework. Enter the SAP Business One user name, not the user code. Separate entries by comma.
- o If you want the company database to create events based on indirect journal entries, select the *Create Complete Journal Entry Events* checkbox. Standard SAP Business One processing does not create events for indirect journal entries.

3. To define the receiver of events, choose the *Default Inbound* button. You have the following options:

- o Default Inbound

This is the default. The event sender hands over events to B1iP. The event dispatcher hands over the events to the event subscriber that distributes the events to the target application or applications.

- o SAP Business One integration for SAP NetWeaver 2005

This option is available for SAP Business One integration for SAP NetWeaver 2005 to be backwards compatible.

If you select this option, choose the *Receiver* button and enter the B1i application URI. To test the connection, choose the *Test connection* button.

- o OTR (Other)

If you select this option, choose the *Receiver* button and enter the B1i application URI. To test the connection, choose the *Test connection* button.

4. To test the connection to the receiver of SAP Business One events, choose the *Receiver* and then on the *Test Connection* button.

8. Step 5 gives you a summary of the event sender settings.

9. To save the settings, choose the *Finish* button.

- Restart the *SAP Business One EventSender* service.

Result

The setup program stores the settings in the `datasource.properties` and `eventsenderconfig.properties` configuration files.

7.5.8 Changing SAP Business One DI Proxy Settings

SAP Business One DI Proxy is the SAP Business One-related component that enables data exchange with SAP Business One using the DI API. No additional steps are required to set up the SAP Business One DI Proxy service. To influence the behavior of the SAP Business One DI Proxy service, parameters are available in the `diproxyserver.properties` file.

Procedure

- To change parameters, access the `diproxyserver.properties` file in the `...SAP\SAP Business One Integration\DIProxy` path.

Property	Description
RMI_PORT	The parameter is obsolete.
HTTPS_PORT	DI Proxy TCP port for HTTPS.
MAXDIERRORS	If this property exists and has a value greater than 0, the value defines the number of DI errors that may occur before the DI Proxy restarts. The default is 50.
RESTARTPERIOD	If this property exists and has a value greater than 0, the value determines the time in minutes after which the DI Proxy restarts. The default is 60.
ORPHANED	This property defines the value in minutes after which the system defines a pending and not yet completed DI transaction as orphaned. The DI Proxy removes the transaction from the internal transaction list. If this property does not exist or does not have a positive value, the default is 10. If it exists, the default is 30.
JCOPATH	If this property exists and is not empty, it defines the path the DI Proxy uses to search for the JCo installation. In this case the system ignores any value coming from B1iP requested by an adapter. If the property does not exist, the system uses any value coming from B1iP requested by an adapter. In this case the setting is probably not definite. SAP recommends setting the JCo path in the <code>diproxyserver.properties</code> file.

Property	Description
	<p>If you want to change a JCo path that someone has already maintained and that the system has used for connection, you can apply this change only after you have restarted the SAP Business One DI Proxy Service.</p> <p>Use / or \\ instead of \ as a separator in the JCOPATH value. Use for example C:\\Program Files\\SAP\\SAP Business One DI API\\JCO\\LIB</p>
JCOVERSION	<p>If this property exists and is not empty, it defines the version the DI Proxy uses to search for the JCo installation.</p>
restartAttemptDelay	<p>As of DI Proxy version 30002211, you can overlay the default for a restart delay (500 milliseconds).</p> <p>Provide a value in milliseconds.</p> <p>The parameter is not part of the default <code>diproxyserver.properties</code> file. If you want to use it, add it manually.</p>
restartAttemptCap	<p>As of DI Proxy version 30002211, you can overlay the default number of restart attempts (10).</p> <p>The parameter is not part of the default <code>diproxyserver.properties</code> file. If you want to use it, add it manually.</p>

- If you change any settings, restart the [SAP Business One DI Proxy Service](#).

7.5.9 Integration Framework-Related Information About Dashboard Widgets for the Cockpit

- If the B1i user password is not correct or licenses are not properly assigned to the user, Dashboard widgets display the `401 not authorized` error.
In the integration framework, adjust the B1i user password in SLD. Ensure that licenses are correctly assigned.
For more information, see the [Licensing](#) section.
- If Dashboards have been activated, but not properly deployed in the integration framework, the `404 file not found` error mentioning `DASHBOARD` is displayed.
Check that all services for the integration framework are running.
Deactivate the Dashboard widgets, log off and logon again, and activate the Dashboard widgets.
- To support the display of dashboards, ensure that Adobe Flash Player 10.0 is installed on the client workstation.
- For information about creating dashboards, see *How to Develop Your Own Dashboards for SAP Business One* on sappartneredge.com. Customers can find the document in the documentation area of SAP Business One Customer Portal at <http://service.sap.com/smb/sbocustomer/documentation>.

8 Maintaining Databases

This section provides information about checking and maintaining your database system. Database activities depend on the nature of your organization's day-to-day work. There are many factors influencing system performance, such as disk space availability, the number of transactions occurring each day, and so on. It is essential to perform daily and regular checks to ensure the efficient operation of SAP Business One. System performance depends on the correct administration of the database.

This section also lists all the stored procedures quoted in the SAP Business One application.

8.1 Database Server Administration

This section provides basic information about the SQL Server environment, the way a database management system stores and accesses the data, and the database administration tool. The information comprises the following topics:

- Starting and stopping database services
- Performing weekly tasks
- Performing regular tasks
- Performing backups
- Performing restoration

8.1.1 Starting and Stopping Database Services

Occasionally, it is necessary to stop and start database services manually, for example, when you perform a complete backup of the database.

Procedure

- To stop database services:
 1. Verify that no clients are logged on to SAP Business One.
 2. To open SQL Server Management Studio, in Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*.
 3. In the *Object Explorer* window, right-click the database server on which your SAP Business One database is installed and choose *Stop*.
- To start database services:
 1. To open SQL Server Management Studio, in Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*.

2. In the *Object Explorer* window, right-click the database server on which your SAP Business One database is installed and choose *Start*.

Note

If you are not able to log on to SAP Business One, and the dialog box for choosing a company contains an empty list, check whether Microsoft SQL Server is running.

If you log off the Microsoft SQL Server services, all user processes are terminated, but the database services keep running.

8.1.2 Weekly Tasks

Perform the following tasks on at least a weekly basis:

- Checking database consistency
- Running the Update Statistics command

If the size of the SAP Business One database is large or your company has a large volume of daily or weekly transactions in SAP Business One, perform the previous tasks more often.

8.1.2.1 Checking Database Consistency

A database consistency check performs a thorough check of the entire database. It examines all tables in the database to ensure that index and data pages are linked correctly and that indexes are in the correctly sorted order. A database consistency check also ensures that all pointers are consistent and that the data information on each page and page offset is reasonable.

Performing database consistency checks enables you to recognize problems early, and prevent escalations and the possible loss of data.

When performing database consistency checks, ensure the following:

- Schedule consistency checks with the planning calendar.
- Run consistency checks outside of normal business hours, for example on the weekends.
- Do not schedule any other tasks at the same time as you run the consistency check.

Note

On the Microsoft SQL Server level, the SAP Business One database consistency check executes the `DBCC CHECKDB` command, which locks user tables, indexes, and system tables throughout the run.

In addition, a database consistency check is an I/O intensive process. Therefore, you should not run checks during normal business operations, but at times when the system load is low.

You can use the remote support platform for SAP Business One to automatically perform database consistency checks as part of a defined backup strategy. For more information, see the online help for the remote support platform.

8.1.2.2 Running the UPDATE STATISTICS Statement

The `UPDATE STATISTICS` statement defines the storage requirements of tables and indexes as well as the value distribution of columns, and stores this information in the database catalog.

The Optimizer uses these values to determine the best strategy for executing SQL statements. Use the `sp_updatestats` procedure on all user-defined tables in the required database.

When the `UPDATE STATISTICS` statement is executed, the following information about the table is stored in the database catalog:

- Number of rows
- Number of pages used
- Size of indexes
- Value distribution within columns or indexes

You can use the remote support platform for SAP Business One to execute the `UPDATE STATISTICS` statement manually or as part of a scheduled task. You can also configure the remote support platform to create a job in the Microsoft SQL Server Agent, which updates statistics according to schedule.

8.1.3 Regular Tasks

Performing scheduled tasks is essential for ensuring database availability and minimizing the risk of data loss. Perform the following tasks on a regular basis, as determined by your database size and transaction volumes:

- Verify that the database server is running
- Verify that the backups run successfully
- Check the database
- Shrink the transaction log
- Monitor disk space

8.1.3.1 Verifying Database Servers Are Running

You must complete this task every morning. SAP Business One clients cannot work if the database server is not running.

Procedure

Run the SAP Business One client and log on to your database server. If you can log on, the database server is running.

Alternatively, you can use the System Status Report of the remote support platform for SAP Business One to automate the database verification process.

8.1.3.2 Verifying Backups

Backups of your database are essential for recovering the SAP Business One system in case of failure. Use this procedure to verify that previous backups ran successfully.

Alternatively, you can use the remote support platform for SAP Business One to automate the backup verification process as part of a defined backup strategy.

Procedure

1. To open SQL Server Management Studio, in Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*.
2. Select the *Management* folder and check the SQL server logs.
3. Search for the last backup message.
4. Verify that the backup ran successfully and that the date fits the scheduled settings.

The following is an example of a successful backup message:

```
" Database backed up. Database: myDB, creation date(time): 2005/12/21(10:57:16),
pages dumped: 502701, first LSN: 37211:18:108, last LSN: 37211:91:1, number of dump
devices: 1, device information: (FILE=1, TYPE=DISK: {'E:\temp\bck\myDB'}). This is
an informational message only. No user action is required."
```

8.1.3.3 Checking Databases

The SQL Server database uses disk space to store the database data files and the daily transaction log files. If you do not establish a schedule for the backup of the transaction log, the log file can grow too large, causing a decline in system performance. Ultimately, this can stop the database system.

The transaction log should not occupy more than 60–70% of the total available disk size. If it regularly exceeds this level between subsequent backups, you must save the transaction log more frequently. In SQL Server Management Studio, you can determine whether the data file and transaction log file are set to grow automatically.

In addition, check the utilization of table space and the content of error logs on a regular basis.

Procedure

- To check the size of the data file and the transaction log file, do the following:
 1. To open SQL Server Management Studio, in Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*.
 2. Select the database for which you want to check the transaction log size.
 3. Right-click the selected database and choose *Reports* → *Standard Reports* → *Disk Usage*. In the right pane, you can see the report.
 4. Verify that there is enough free space, based on your organization's needs, for both the data file and the transaction log.

- To set grow options for database files, do the following:
 1. Open SQL Server Management Studio and select a database.
 2. Right-click the selected database and choose *Properties*.
 3. In the *Properties* window, from the menu on the left, choose *Files*.
 4. The database files appear in the right pane.
 5. In the *Autogrowth* field, set a value according to your organization's needs.
- To check error logs, do the following:
 1. Open SQL Server Management Studio.
 2. Select the *Management* folder and check the *SQL Server Logs* folder.
 3. Check for error messages and verify that no problems have occurred.

8.1.3.4 Shrinking Transaction Logs

Shrinking the transaction log file frees up disk space and minimizes the risk of data loss. Shrinking the transaction log does not reduce the size of a physical log file. It removes enough inactive virtual logs to reduce the log file to the requested size. Use this procedure to shrink the transaction first virtually and then physically.

In addition, you can use the remote support platform for SAP Business One to shrink the transaction log manually or as part of a scheduled task. You can also configure the remote support platform to create a job in the Microsoft SQL Server Agent, which shrinks the transaction log according to schedule.

Procedure

1. To open SQL Server Management Studio, in Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*.
2. Select the required system database.
3. Right-click the selected database and choose *New Query*.
The right pane displays the *Query* window.
4. In the *Query* window, enter the following command:

```
BACKUP LOG <sid> WITH NO_LOG
```

Where:

<sid> is name of the database, for example `sbodemo_us`

Right-click anywhere on the query tab and choose *Execute*.

This statement reduces the size of the logical log. It removes the inactive part of the log, without making a backup copy, and truncates the log.

Specifying a backup device is unnecessary because the log backup is not saved.

After you back up the log using `NO_LOG`, the changes recorded in the log are not recoverable. For recovery purposes, execute a manual backup of your database. For more information, see SAP Note [557412](#).

5. To reduce the size of the physical log file, enter the following command:

```
DBCC SHRINKFILE (<name_logfile>, <size>)
```

Where:

<name_logfile> is the logical name of the shrunk file, for example `sbodemo_us_log`

<size> is the required size for the file, in megabytes, expressed as an integer. If the size is not specified, `DBCC SHRINKFILE` reduces the size to the default file size, for example 10 MB.

Right-click anywhere on the query tab and choose *Execute*.

 Note

In SQL Server, a `DBCC SHRINKDATABASE` or `DBCCSHRINKFILE` operation attempts to shrink the physical log file to the requested size (subject to rounding).

8.1.3.5 Monitoring Disk Space

We recommend that you regularly check the amount of free space available on the disk. You can use the System Status Report of the remote support platform for SAP Business One to automate the process of monitoring the amount of free disk space.

8.1.4 Backing Up Databases

This section provides an introduction to backups and information about the necessity of a backup strategy. Databases are always at risk of damage and it is vital to implement a security strategy.

To keep the risk of data loss low, ensure that you develop a backup strategy that suits your business and the requirements of your customers. An important factor to consider is the volume of data that you process each day. In case of data loss, you are required to retrieve this data manually, back to the time of your last backup.

With SAP Business One, we recommend backing up your application database regularly.

 Caution

SAP Business One can save the configuration data only when you have write and read access to the user profile folder.

8.1.4.1 Backup Strategies

To choose the appropriate backup-and-restore strategy, you need to identify the requirements for the availability of your data. Your overall backup strategy should define the type and frequency of backups and the nature and speed of the hardware.

Consider the complexity of each strategy. Full backups are easy to implement. If you are considering backing up your transaction log as well, test all backup-and-restore procedures intensively.

When choosing your backup strategy, you can use the following methods:

- Full Backup

In Microsoft SQL Server, a full backup is a consistent copy of your database at a certain time. Since only used objects are saved, normally the copy is smaller than the original database. Full backups should be scheduled for a time when there is a low load on the database server.

- **Differential Backup**

A differential backup is a backup of all data that has changed since the last full backup was performed. Compared with full backups, differential backups consume less time and disk space, but can result in a longer amount of time required to restore data.

- **Transaction Log Backup**

The Transaction Log is a serial record of all the transactions that have been performed on the database since the transaction log was last backed up. With transaction log backups, you can recover the database to a specific point in time or to the point of failure.

The transaction log grows over time. If the transaction log exceeds a certain size, it can cause problems in Microsoft SQL Server. To prevent those problems, we recommend doing regular backups of the transaction log, which truncates the transaction log.

- **Backup of SAP Business One Subdirectories**

To avoid data loss, you must back up regularly the following subdirectories of SAP Business One:

- ... \Program Files\SAP\SAP Business One\Attachments\
- ... \Program Files\SAP\SAP Business One\Bitmaps\
- ... \Program Files\SAP\SAP Business One\ExclDocs\
- ... \Program Files\SAP\SAP Business One\WordDocs\

These directories contain Microsoft Word and Microsoft Excel documents and bitmaps. To store the backed up directories, you can use a file archiving application.

 **Recommendation**

Test your backup and recovery procedures thoroughly. Testing helps to ensure that you have the required backups to recover from various failures, and that your procedures can be executed smoothly and quickly if a failure occurs.

The frequency of the backups depends on the following factors:

- Processed data volume
- Customer requirements
- Number of users

Consider how much time you would need to invest in retrieving your data manually after a data loss. After installing or upgrading SAP Business One, perform a full backup of the SBO_DB database.

8.1.4.2 Backup Types

You can back up your data using the backup functionality of remote support platform for SAP Business One or SQL Server Management Studio, using one of the backup types described below:

- **Full Backup and Differential Backup and/or Transaction Log Backup Using the Remote Support Platform for SAP Business One**

This backup type saves backup data to a network folder. The setup is relatively simple, and you can configure the remote support platform to automatically perform scheduled backups according to a defined strategy. The remote support platform can also backup SAP Business One subdirectories.

- Full Backup Using Microsoft SQL Server Management Studio

This backup type can save the backup data directly to tape. If you save the backups on disk, ensure the backup is copied to another medium, such as another hard disc, DVD, or tape.

Do a manual backup of the files and directories of your hard disk.

- Full Backup and Transaction Log Backup Using Microsoft SQL Server Management Studio

 Note

To use SQL Server Management Studio to perform transaction log backups, you should have already selected the Full recovery model option.

The advantage of this type of backup is that the monitoring is partly automated and you can save the backups directly to a tape. You can also add alerts. Disadvantages include a relatively complicated setup and the need to manually back up the subdirectories of SAP Business One. However, SAP Business One does not fully support all of the features available with SQL Server Management Studio; therefore, if you require support from SAP in the future, your database backup may not be fully compatible.

 Note

- Full Recovery — You can perform accumulated backups and move back to a specific point in time.
- Simple Recovery — You can back up only the whole database; after the restoration, the database goes back to exactly the same point at which it was backed up.

 Example

The following table summarizes the main options for each backup type:

Backup Type	Full Backup and Differential Backup and/or Transaction Log Backup	Full Backup	Full Backup and Transaction Log Backup
Tool	Remote support platform for SAP Business One	Microsoft SQL Server Management Studio	Microsoft SQL Server Management Studio
Recovery model	Full	Simple	Full
Installation effort	Low	Medium	High
Monitoring effort	Low	Medium	Medium
Backup destination	Disk or network share	Disk or tape	Disk or tape
Automatic file backup	Yes	Yes	No
Complexity	Low	Medium	High

Note

SAP Business One Product Support only accepts backups on destination disks. If you back up on tape, you must first restore it from there, and back it up again, using a destination disk, prior to sending it to SAP Support.

8.1.4.3 Troubleshooting Backups

To ensure that your database backups are successful, check your server at regular intervals. Ensure that you have enough disk space on the server on which your database is stored. If you store your backup on another server, check that there is enough free space.

The basic checks include:

- Drive space
- Disk subsystem errors
- Tape drive errors
- Event Viewer
- Regular evaluation of your recovery and restore process

Procedure

1. To check the disk space, do the following:
 1. In the Microsoft Windows *My Computer* window, right-click *Hard Disk Drives* and choose *Properties*. The *Properties* window appears.
 2. Check the free space on your hard disk.

The free space you need on your hard disk depends on the volume of data you process each day. Depending on the disk system and the tape drive, scan for disk errors at regular intervals. For more information, see your tape drive documentation.
2. To check whether errors occurred in the operating system or on the database server, do the following:
 1. In Windows, choose *Start* → *Control Panel* → *Administrative Tools* → *Event Viewer*.
 - Events that occur in the system are stored in three different logs. Within these logs, events are classified as Information, Warning, or Error.
 - Events that occur within the database server are stored in the *Application* folder. In the *Source* column of the application log, you can see the source application for a specific event.
 2. Double-click an event to display more information.
 3. In the Application Log, look for error events that may indicate backup failures.

If you perform network backups, look for network errors in the System and Application logs.

8.1.5 Restoring Databases

If a failure damages the system, restoring the database restores the integrity of the data in most cases. Ideally, the downtime of the system will be minimal and no data should be lost. Develop a restore strategy that considers the maximum downtime allowed for your system, and estimate how much time you need to react to a system failure. Analyze the problem and take appropriate measures.

You may be required to change hardware or reinstall the operating system before restoring your database.

Ensure that an employee familiar with the restore procedures is available at all times. Testing of the restore procedures improves the chances of a successful and fast recovery of your data. We recommend doing test backups and test restores at regular intervals.

Restore the database in the following situations:

- Hardware failure
- Migration to a new hardware
- Logical errors
- Virus
- Testing

8.1.5.1 Restore Checklist

The steps below comprise a general procedure for restoring data. You may find that you do not need to perform each step for your particular case.

1. Analyze the problem.
2. If possible, save the current active transaction log.

Note

If the database fails, but Microsoft SQL Server is still available, the transaction log contains data that has not been saved yet. You can save it only if the following are not damaged:

- Hard disk on which the transaction log is saved
- Hard disk on which the executable files are located

If you cannot save the transaction log, you can only restore the changes that occurred after the backup of the last transaction log.

3. Use the necessary hardware.
4. Configure your database server.
5. Restore your last full backup.
6. Restore the transaction log.
7. Test all executed measures.
8. Release to productive operation.

8.1.5.2 Saving Current Transaction Logs



Caution

Before you start the restore process, verify that the installed service pack has not changed since the time of the backup.

Procedure

1. Insert a new tape and, to open SQL Server Management Studio, in Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*.
2. Select the relevant database, right-click it, and choose the *New Query* menu.
3. In the *Query* window, run the following command:

```
BACKUP LOG <sid> TO <tape> WITH NO_TRUNCATE, FORMAT
```

Where:

<sid> is name of the database, for example, sbodemo_us

<tape> is your backup tape name (case sensitive)

4. After saving the transaction log file, you can change any damaged hardware and, if necessary, reinstall your operating system and your Microsoft SQL Server database, as described in *Installing SAP Business One*.
5. Restore your last full database backup.
The database is now in the same condition as it was when the backup was carried out. After you restore the transaction logs, finished transactions are applied to the database again.
6. Perform a rollforward until the end of the transaction log.

The database is now in the same condition as it was at the time of the last transaction log backup. Since this condition is not consistent, perform a rollback for all unfinished transactions.

The <msdb> database stores the history of backups and of restore operations in the backup set and backup file of the tables. If the msdb database is available, the recovery is based on the saved history in msdb. For more information, see *Restoring Data When msdb Is Available*.

If the system database msdb is not available, you have to restore it and reconstruct the history. For more information, see *Restoring Data When msdb Is Unavailable*.



Recommendation

To ensure a successful restore operation, you can test the restore process against a test database. If you use the transaction log file, we recommend testing all procedures thoroughly.

8.1.5.3 Restoring Backup Files and Application Folders

To restore backup files and application folders, perform the following procedures:

1. Extract the files from the backup archive, including:
 - o Database backup .zip file
 - o Application folder backup archive files

2. Extract the application folder backup archive files to separate folders.
3. Manually copy the extracted files back to the original shared folders.

8.1.5.4 Restoring Data When msdb Is Available

This procedure provides instructions for restoring your database when the database msdb is available. When you use the history function, the last backups are selected automatically.

Procedure

1. To enable the system to restore the database, close SAP Business One.
2. To open SQL Server Management Studio, in Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*.
3. Right-click the required database and choose *Tasks* → *Restore* → *Database*.
A list of performed backups appears. The last full backup and the subsequent transaction log backups are selected automatically.
4. In the *Restore Database* window, on the *Options* tab, select the following options:
 - *Overwrite over existing database* — To overwrite the existing database, select this option.
 - *Preserve the replication settings*
 - *Prompt before restoring each backup* — Prompt the user before restoring each backup to prevent a user from inadvertently restoring a backup.
 - *Restrict access to the restored database*
 - *Restore database file as* — In the *Restore As* column, change the path name if you are restoring the database on a different server.

Note

To specify the .bu file, do the following:

1. In the *Microsoft SQL Server Management Studio* window, on the *General* tab, select the *From Device* radio button and choose the *Browse* button.
 2. In the *Specify Backup* window, choose the *Add* button.
 3. In the *Locate Backup File <computer_name>* window, from the *Files of Type* dropdown list, select *All Files*.
 4. In the hierarchy tree, specify the .bu file that you want to restore.
 5. Choose the *OK* button.
5. To confirm, choose the *OK* button.

The system starts the database restore process.

6. Wait until the following message is displayed:

```
Restore of Database <databasename> completed successfully.
```

SQL Server copies the data from the backups, restoring the database and creating all dependent files.

8.1.5.5 Restoring Data When msdb Is Unavailable

This section provides instructions for restoring your database when the history in the database <msdb> is not available, for example, after you reinstall SQL Server. For this procedure, you need your last full backup and all subsequent backups of the transaction log.

Procedure

1. To enable the system to restore the database, close SAP Business One.
2. To open SQL Server Management Studio, in Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*.
3. Create a new database as follows:
 1. Right-click the *Databases* folder and choose *Tasks* → *Restore* → *Database*.
The *Restore Database* window appears.
 2. Specify a name for your new database (the name of your company in SAP Business One).
4. Right-click the new database and choose *Tasks* → *Restore* → *Database*.
5. Select the *Restore: From Device* option and choose the *Browse* button.
6. In the *Specify Backup* window, choose the *Add* button.
7. In the *Locate Backup File* window, locate and select the file containing your last full backup.
Choose the *OK* button.
8. In the *Specify Backup* window that opens, locate and select the file containing your last full backup.
Choose the *OK* button.
9. In the *Restore Database* window, select the required back sets and on the *Options* tab make the following settings:
 - o Select the *Overwrite the existing database* checkbox.
 - o Under the *Restore As* column, change the path, if necessary, for example, if you are restoring the database on a different server where the path name does not exist.
 - o In the *Recovery completion state* area, select the *Leave database non-operational but able to restore additional transaction logs* option.
Choose the *OK* button.
The system starts restoring the database.
10. Wait for the following message:
Restore of Database <sid> completed successfully.
Continue to the procedure for restoring transaction logs.

8.1.5.5.1 Restoring Transaction Logs

Procedure

1. Right-click the database you want to restore and choose *Task* → *Restore* → *Transaction Log*.

2. Select the *Restore: From Device* option and choose the *Browse* button.
3. In the *Specify Backup* window, choose the *Add* button.
4. In the *Locate Backup File* window that appears, locate and select the file containing your last full backup. Choose the *OK* button, and do the same in the *Specify Backup* window that appears.
5. In the *Restore Database* window, on the *Options* tab, make the following settings:
 - Select *Overwrite the existing database*.
 - In the *Recovery completion state* area, select the *Leave database not operational but able to restore additional transaction logs* option.
 - Choose the *OK* button.The system starts to restore the database.
6. Repeat this procedure for all transaction logs.

When you reach the last transaction log, in the *Recovery Completion State* pane, select the *Leave database operational option*. No additional transaction logs can be restored.

8.1.5.6 Troubleshooting Restore

The only way to verify that you can do so is to regularly restore backups using the same medium that you would use in disaster recovery.

Recommendation

At regular intervals, perform the procedures that would take place in case of a disaster, including the restore process of full and transaction log backups.

8.2 Data Transfer Workbench for SAP Business One

SAP Business One implementations require you to move data from legacy systems to the new SAP Business One system. Business data (such as customers, vendors, and products) must be available in the new system before it goes live.

Data Transfer Workbench provides a wizard that imports new data into SAP Business One and updates existing data. To simplify the preparation of data for the import, SAP provides predefined data file templates. Data Transfer Workbench records import activities so you can track the data migration process.

For more information, see the Data Transfer Workbench online help file in the document resource center at <http://service.sap.com/smb/sbocustomer/documentation>.

The data migration process consists of the following tasks:

1. Extracting data files from your legacy system
2. Cleaning data
3. Mapping data and converting data
4. Importing data into SAP Business One
5. Checking the results of the import

8.3 Stored Procedures

The stored procedures listed below are all used in the SAP Business One application. The first table is for the SBO-COMMON database and the second one is for the company database.



Caution

You must not rename or remove any of the items in the list; otherwise, errors may occur when running SAP Business One.

SBO-COMMON Database Procedures

SBO- COMMON Procedures
ClearEnumValues
DeleteAllEnumsAndClasses
DeleteAllObjects
DeleteAllPropertyDefs
DeleteClassDef
DeleteDependentProperties
DeleteEnumType
DeleteMetaObject
DeleteMetaProperty
DeleteMetaRelation
DeletePropertyDef
InsertClassDef
InsertClassDefId
InsertEnumType
InsertEnumTypeId
InsertEnumValue
InsertMetaObject
InsertMetaProperty
InsertMetaRelation
InsertPropertyDef
InsertPropertyDefId
NumberPropertyDefs

SBO- COMMON Procedures
NumberRelations
OBSSp_GetNextExecFromSchedule
OBSSp_GetServiceRecord
OBSSp_UpdateScheduleRecord
OBSSp_UpdateServiceExec
RGSp_UpdateInstance
RGSp_UpdateLicense
TmSp_AliasUpdate
TmSP_CheckDiskSpace
TmSp_CopyCompany
TmSp_GetCompList
TmSP_GetDbSizeByDrives
TmSp_GetServerTime
TmSp_GetUsers
TmSp_Installer_CreateTmSp
TmSp_Installer_SetFieldValue
TmSp_RefreshCompList
TmSp_RestoreCompany
UpdateClassDef
UpdateEnumType
UpdateMetaObject
UpdateMetaProperty
UpdateMetaRelationSeqNo
UpdatePropertyDef
UpdatePropertyDefSeqNo
ClearEnumValues
DeleteAllEnumsAndClasses
DeleteAllObjects
DeleteAllPropertyDefs
DeleteClassDef
DeleteDependentProperties

SBO- COMMON Procedures
DeleteEnumType
DeleteMetaObject
DeleteMetaProperty
DeleteMetaRelation
DeletePropertyDef
InsertClassDef

Company Database Procedures

Company Database Procedures
_TmSp_AliasUpdate_OUSR
_TmSp_AliasUpdateAfter
_TmSp_AliasUpdateBefore
_TmSp_ControlAccountUpgrade_OCRD
_TmSp_ConvertGrpLine_OACT
_TmSp_ExpnsUpdateOnDocs
_TmSp_FormattedSearchUpdate
_TmSp_MthDate_Update_JDT1
_TmSp_RestoreIsCommitted_OIBT
_TmSp_SetCategoryAtOFPR
_TmSp_SetLineNumAtADO3
_TmSp_SetLineNumAtDOC3
_TmSp_SetLineNumAtDOC5
_TmSp_SetLineSeqAtDOC4
_TmSp_SetLineSeqAtPMN5
_TmSp_SetUniqueDocEntryAtOCRD
_TmSp_ShekelUpdate
_TmSp_UpdateCreateDateOnOINM
_TmSp_UpdateDoubleName
_TmSp_VariableUpdate_OUQR
_TmSp_VatSumCalc

Company Database Procedures
SBO_SP_PostTransactionNotice
SBO_SP_PostTransactionSupport
SBO_SP_TransactionNotification
SBO_SP_TransactionSupport
TmSp_adding_To_OITW
TmSp_AddSqlUser
TmSp_ChooseCIN4Correction
TmSp_ChooseINV4Correction
TmSp_ConGrpLine_OACT_rekurs
TmSp_ConvertGrpLine_OACT
TmSp_CorrActReport
TmSp_CorrActReport_BP
TmSp_CorrActReport_BP_Split
TmSp_CorrActReport_Split
TmSp_DragOn
TmSp_DragOnPk
TmSp_FifoGetINM_Records
TmSp_GetDocVatTotals
TmSp_GetMaxRange
TmSp_GetOpenRCTs
TmSp_GetOpenRINs
TmSp_GetUsers
TmSp_GetWDD
TmSp_Installer_SetFieldValue
TmSp_OpportAnalysis
TmSp_OpportAnalysis_CRD
TmSp_OpportAnalysis_ITM
TmSp_OpportAnalysis_SLP
TmSp_OutboxSync
TmSp_PicknPackCreateTempTable
TmSp_Purch_An_Crd_Det_Y

Company Database Procedures
TmSp_Purch_An_Crd_Grp_M
TmSp_Purch_An_Crd_Grp_Y
TmSp_Purch_An_Crd_Sng_M
TmSp_Purch_An_Crd_Sng_Y
TmSp_Purch_An_Itm_Det_Y
TmSp_Purch_An_Itm_Grp_M
TmSp_Purch_An_Itm_Grp_Y
TmSp_Purch_An_Itm_Sng_M
TmSp_Purch_An_Itm_Sng_Y
TmSp_Purch_An_Slp_Sng_M
TmSp_Purch_An_Slp_Sng_Y
TmSp_RebuildAcctMatch
TmSp_RebuildMatchHistory
TmSp_Replace_Table
TmSp_Sales_An_Crd_Det_Y
TmSp_Sales_An_Crd_Grp_M
TmSp_Sales_An_Crd_Grp_Y
TmSp_Sales_An_Crd_Sng_M
TmSp_Sales_An_Crd_Sng_Y
TmSp_Sales_An_Itm_Det_Y
TmSp_Sales_An_Itm_Grp_M
TmSp_Sales_An_Itm_Grp_Y
TmSp_Sales_An_Itm_Sng_M
TmSp_Sales_An_Itm_Sng_Y
TmSp_Sales_An_Slp_Sng_M
TmSp_Sales_An_Slp_Sng_Y
TmSp_SetBalanceByJdt
TmSp_SetBgtAccumulators_ByJdt
TmSp_SetGIStamp
TmSp_SetVendorDeductPercent
_TmSp_AliasUpdate_OUSR

Company Database Procedures
_TmSp_AliasUpdateAfter
_TmSp_AliasUpdateBefore
_TmSp_ControlAccountUpgrade_OCRD
_TmSp_ConvertGrpLine_OACT
_TmSp_ExpnsUpdateOnDocs
_TmSp_FormattedSearchUpdate
_TmSp_MthDate_Update_JDT1
_TmSp_RestoreIsCommitted_OIBT
_TmSp_SetCategoryAtOFPR
_TmSp_SetLineNumAtADO3
_TmSp_SetLineNumAtDOC3
_TmSp_SetLineNumAtDOC5
_TmSp_SetLineSeqAtDOC4
_TmSp_SetLineSeqAtPMN5
_TmSp_SetUniqueDocEntryAtOCRD
_TmSp_ShekelUpdate
_TmSp_UpdateCreateDateOnOINM
_TmSp_UpdateDoubleName
_TmSp_VariableUpdate_OUQR
_TmSp_VatSumCalc
SBO_SP_PostTransactionNotice
SBO_SP_PostTransactionSupport
SBO_SP_TransactionNotification
SBO_SP_TransactionSupport
TmSp_adding_To_OITW
TmSp_AddSqlUser
TmSp_ChooseCIN4Correction
TmSp_ChooseINV4Correction
TmSp_ConGrpLine_OACT_rekurs
TmSp_ConvertGrpLine_OACT
TmSp_CorrActReport

Company Database Procedures
TmSp_CorrActReport_BP
TmSp_CorrActReport_BP_Split
TmSp_CorrActReport_Split
TmSp_DragOn
TmSp_DragOnPk
TmSp_FifoGetINM_Records
TmSp_GetDocVatTotals
TmSp_GetMaxRange
TmSp_GetOpenRCTs
TmSp_GetOpenRINs
TmSp_GetUsers
TmSp_GetWDD
TmSp_Installer_SetFieldValue
TmSp_OpportAnalysis
TmSp_OpportAnalysis_CRD
TmSp_OpportAnalysis_ITM
TmSp_OpportAnalysis_SLP
TmSp_OutboxSync
TmSp_PicknPackCreateTempTable
TmSp_Purch_An_Crd_Det_Y
TmSp_Purch_An_Crd_Grp_M
TmSp_Purch_An_Crd_Grp_Y
TmSp_Purch_An_Crd_Sng_M
TmSp_Purch_An_Crd_Sng_Y
TmSp_Purch_An_Itm_Det_Y
TmSp_Purch_An_Itm_Grp_M
TmSp_Purch_An_Itm_Grp_Y
TmSp_Purch_An_Itm_Sng_M
TmSp_Purch_An_Itm_Sng_Y
TmSp_Purch_An_Slp_Sng_M
TmSp_Purch_An_Slp_Sng_Y

Company Database Procedures

TmSp_RebuildAcctMatch

TmSp_RebuildMatchHistory

TmSp_Replace_Table

TmSp_Sales_An_Crd_Det_Y

TmSp_Sales_An_Crd_Grp_M

TmSp_Sales_An_Crd_Grp_Y

TmSp_Sales_An_Crd_Sng_M

TmSp_Sales_An_Crd_Sng_Y

TmSp_Sales_An_Itm_Det_Y

TmSp_Sales_An_Itm_Grp_M

TmSp_Sales_An_Itm_Grp_Y

TmSp_Sales_An_Itm_Sng_M

TmSp_Sales_An_Itm_Sng_Y

TmSp_Sales_An_Slp_Sng_M

TmSp_Sales_An_Slp_Sng_Y

TmSp_SetBalanceByJdt

TmSp_SetBgtAccumulators_ByJdt

TmSp_SetGIStamp

TmSp_SetVendorDeductPercent

TmSp_UpdatingOIT

9 Managing Security in SAP Business One

Your security requirements are not limited to SAP Business One, but apply to your entire system landscape. Therefore, we recommend establishing a security policy that addresses the security issues of the entire company. This section offers several recommendations to help you meet the security demands of SAP Business One.

Your security policy should cover the following aspects:

- **Technical Landscape** — Provides an overview of the technical components and communication paths that SAP Business One uses.
- **User Management and Authentication** — Provides system access to only legitimate users and prevents identity impersonation.
- **Database Authentication** — Introduces a strong password definition mechanism to restrict unauthorized database access.
- **Data Integrity** — Allows specified SAP Business One users to run read-only queries on the company database using query editors to improve data integrity in the database.
- **SAP Business One Authentication and Authorization** — Describes how to restrict access to the SAP Business One database.
- **Network Security** — Supports your communication needs without allowing unauthorized access to your network.
- **Application Security** — Restricts access to users with the necessary permissions.
- **Security Solutions for Microsoft SQL Server and Database Tips** — Provides recommendations for ensuring the security of Microsoft SQL Server.
- **Data Storage Security** — Provides recommendations for secure data storage in SAP Business One.

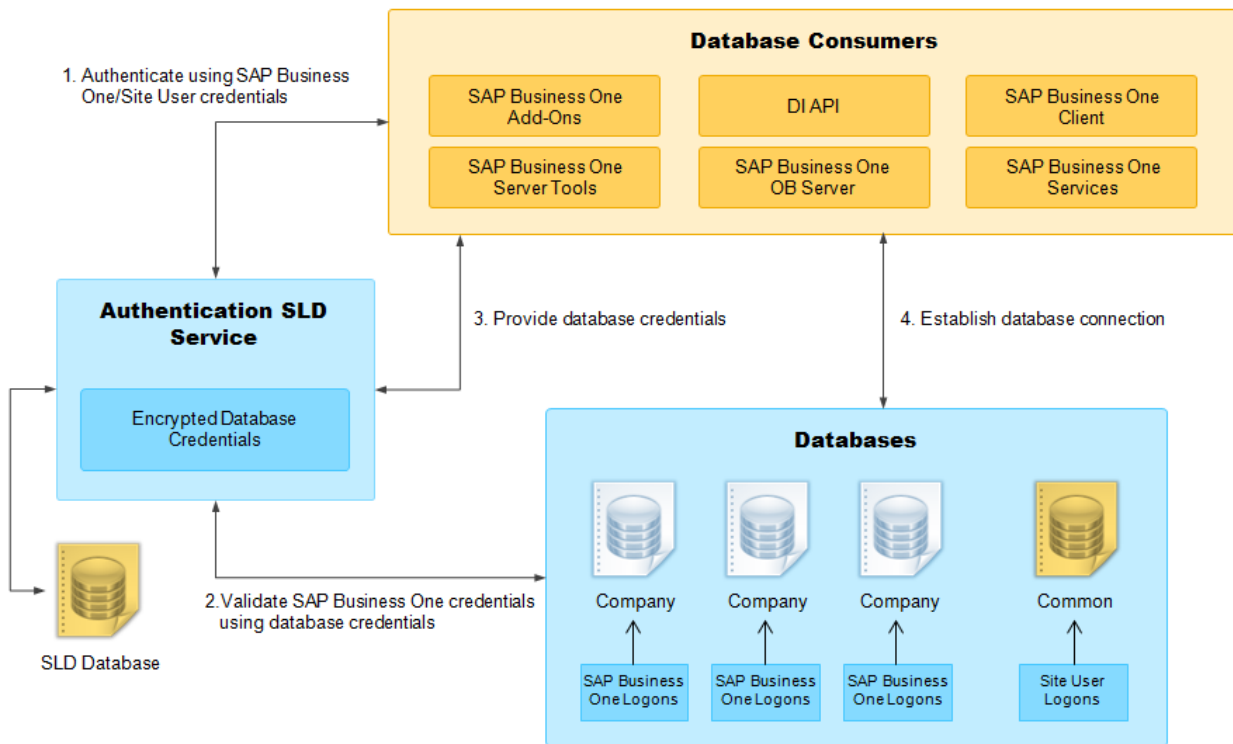
After establishing a security policy, we recommend that you dedicate sufficient time and resources to implement and maintain the required level of security.

9.1 Technical Landscape

In SAP Business One, the System Landscape Directory serves as the security server, which saves database credentials in the SLD database.

Database credentials are obtained by supplying SAP Business One logon credentials for authentication against the SLD service. Upon successful authentication, connections to common and company databases are established using database credentials from the SLD service.

The following figure provides an overview of the security workflow for SAP Business One.



Security Landscape of SAP Business One

This section provides an overview of how SAP Business One supports an integrated approach to user administration and authentication.

9.2 User Management

This section provides an overview of the various types of users and user administration within SAP Business One.

9.2.1 User Types

It is necessary to specify different security policies for different types of users. For example, your policy may specify that individual users who perform tasks interactively must change their passwords on a regular basis, but not users who process job runs. Therefore, SAP classifies the types of users in the application as follows:

Site User:

This user is automatically defined in SAP Business One. It is not a company user type that can log on to the SAP Business One client application, but serves as site-level authentication for performing the following activities:

- Creating new companies
- Installing or upgrading the SAP Business One server

- Importing or exporting the license configuration file
- Assigning read-only users
- Configuring security settings in the SLD service
- Registering databases in the SLD service

- **B1SiteUser**

The super site user, whose account information should only be known to a few selected system administrators, is `B1SiteUser`. You can update the password of the `B1SiteUser` in the System Landscape Directory, on the *Security Settings* tab, by choosing the *Change B1SiteUser Password* button. You will need to provide the old password to make the change. The `B1SiteUser` account cannot be removed.

- **Domain Users as Less-Privileged Site Users**

You can assign appropriate domain users as site users to perform administrative tasks that require fewer privileges in the System Landscape Directory. To do so, follow the steps below:

 **Note**

Before you can assign domain users as site users, ensure you have entered Windows domain user authentication information during the installation of the System Landscape Directory.

To assign a Windows domain user as a less-privileged site user, do the following:

1. In a Web browser, log on to the System Landscape Directory.
2. On the *Security Settings* tab, choose the *Manage Site Users* button.
3. In the *Manage Site Users* window, in the edit box on the top, enter a domain user account in the format of `Domain\User`.
4. To assign the domain user as a site user, choose the *Add* button.

 **Note**

You can delete domain-user site users at any time. Additionally, a domain user can even remove itself as a site user. After the removal, the domain user can no longer log on to the System Landscape Directory.

SAP Business One Company Superusers

When you create a company, a predefined user named `manager` exists in the system. Due to the password policy, you must change the password of the `manager` user at the first logon.

The responsibilities of a superuser include:

- Defining users in companies and setting user permissions
- Configuring password policies at the company level
- Upgrade companies

SAP Business One Company Regular Users

You can define company regular users according to different business role requirements.

The responsibilities of a regular user are to perform the relevant business work in the SAP Business One application.

9.2.2 User Administration

This section describes how to add, remove, or lock an SAP Business One user in the application.

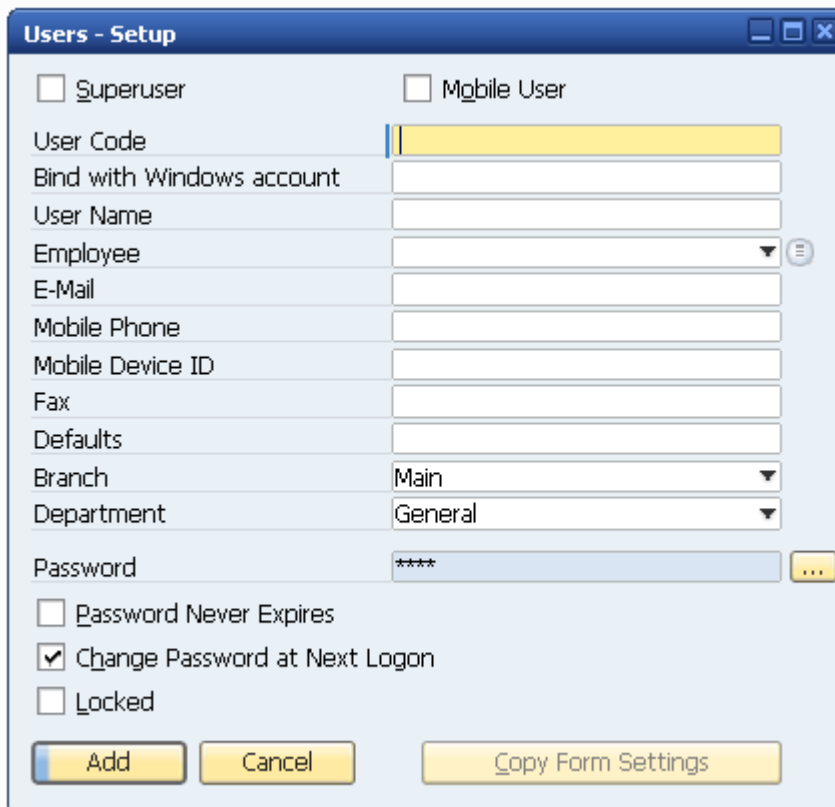
Locking a user prevents this user from logging on to SAP Business One. By default, all users are unlocked. However, if the user fails to log on to the system the number of times defined in *Administration* → *Setup* → *General* → *Security* → *Password Administration* → *Authentications Before User Account is Locked*, the user is locked automatically.

Note

Only a superuser can add, remove, lock, or unlock an SAP Business One user.

To add a user in SAP Business One, do the following:

1. In the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *Users*.
2. In the *Users - Setup* window, specify the required user-specific data.



The screenshot shows the 'Users - Setup' dialog box with the following fields and options:

- Superuser
- Mobile User
- User Code: [Empty text box]
- Bind with Windows account: [Empty text box]
- User Name: [Empty text box]
- Employee: [Dropdown menu]
- E-Mail: [Empty text box]
- Mobile Phone: [Empty text box]
- Mobile Device ID: [Empty text box]
- Fax: [Empty text box]
- Defaults: [Empty text box]
- Branch: [Dropdown menu, value: Main]
- Department: [Dropdown menu, value: General]
- Password: [Text box with masked characters '****']
- Password Never Expires
- Change Password at Next Logon
- Locked
- Buttons: Add, Cancel, Copy Form Settings

3. Choose the *Add* button.

To remove a user in SAP Business One, proceed as follows:

1. In the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *Users*.
2. In the *Users - Setup* window, in the *User Code* field, specify the user that you want to delete.
3. Right-click anywhere in the window and choose the *Remove* button.
4. Choose the *Continue* button.

To lock or unlock a user in SAP Business One, proceed as follows:

1. In the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *Users*.
2. In the *Users - Setup* window, in the *User Code* field, specify the user you want to lock or unlock.

3. In the *Users - Setup* window, do the following:
 - o To lock a user, select the *Locked* checkbox.
 - o To unlock a user, deselect the *Locked* checkbox.
4. Choose the *Update* button.

9.2.2.1 Binding SAP Business One Users to Microsoft Windows Accounts

After binding SAP Business One users to Microsoft Windows domain accounts, the users can log on to SAP Business One without specifying the user credentials.

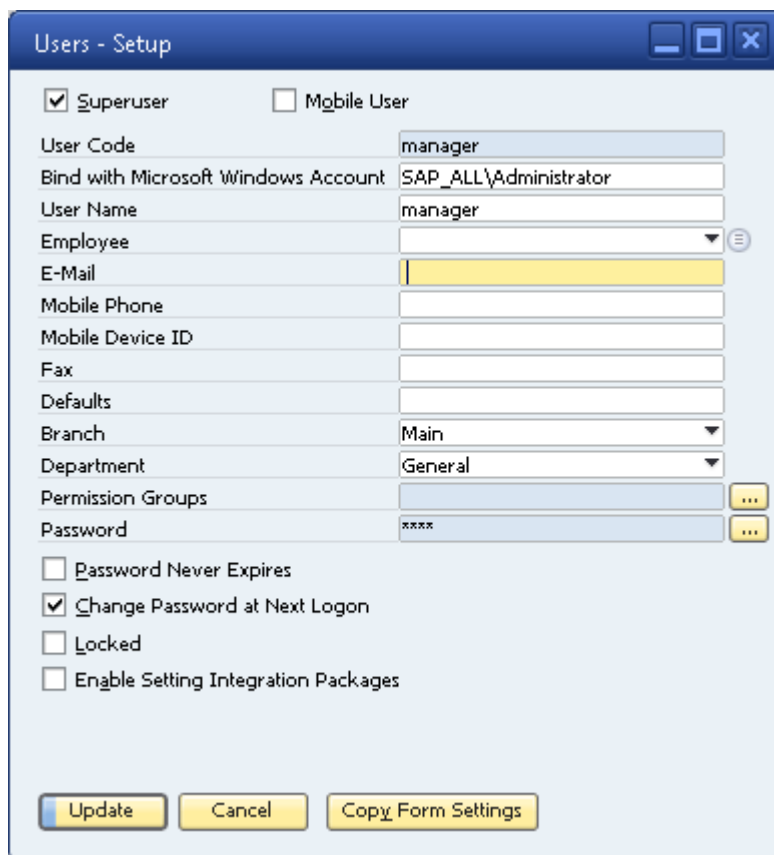
Prerequisite

You have enabled SSO functionality in the SLD. For more information, see [Enabling Single Sign-On](#).

Manual Binding

The following procedure describes how to bind SAP Business One users one by one:

1. In the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *Users*.
2. In the *Users - Setup* window, in the *User Code* field, specify the user that you want to bind.



3. In the *Bind with Windows Account* field, enter the domain and user name of the Microsoft Windows domain user account to which you want to bind the user.
4. Choose the *Update* button.

Copy User Mappings Between Companies

You can copy user mappings between two companies provided that the same user exists in both companies. Each user is identified by the user code (not the user name).

Typical scenarios for this function are as follows:

- You have moved your company database from a test system to a productive system.

- You have moved your company database to another server.
- You have imported and renamed your company database (the old database also exists on the same server).

To copy user mappings, do the following:

1. Log on to the System Landscape Directory in a Web browser.
2. On the *Security Settings* tab, in the *Authentication* section, choose the *Copy User Mappings* button.
3. In the *Copy User Mappings Between Companies* window, specify the source and target companies.

Note

To be available for selection, the servers must be registered in the System Landscape Directory. However, the company database versions do not matter.

4. To display SAP Business One users whose mappings can be copied, choose the *Check* button.
If a user exists only in the source company but is bound to a domain account, the user is displayed as missing in the target company. However, if a user exists only in the target company, the user is not displayed.
5. To copy user mappings to the target company, choose the *Copy* button.

9.2.2.2 Enabling Single Sign-On

SAP Business One supports single sign-on (SSO) functionality. You can bind an SAP Business One user account to a Microsoft Windows domain account. After starting SAP Business One, users are able to bypass the *Choose Company* window and start using the application without being prompted to enter their SAP Business One logon credentials.

Note

After enabling SSO, the *Choose Company* window displays only the companies to which your Windows account is bound.

Caution

Enabling SSO in the SLD activates this functionality for all company databases in the landscape.

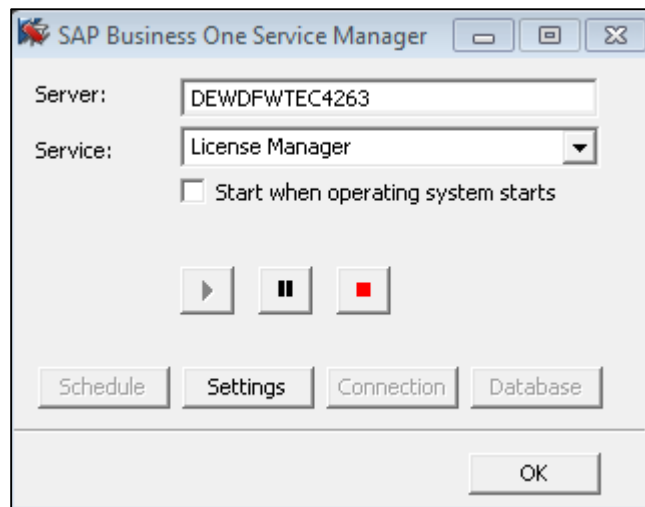
Caution

Before enabling SSO, ensure that the machine on which you have installed the server tools for SAP Business One is a member of the same Microsoft Windows domain as the machines on which SAP Business One clients are installed.

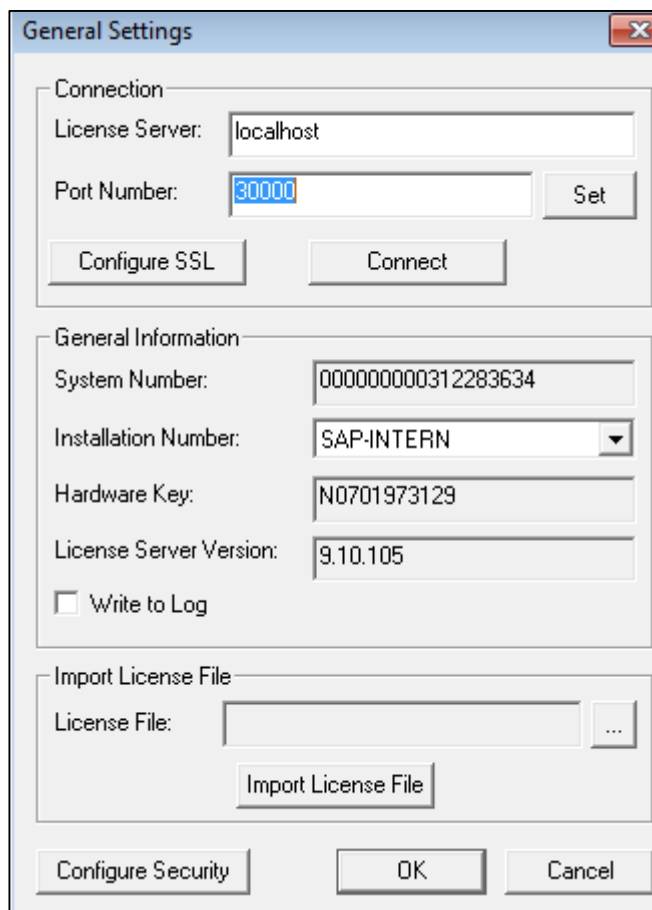
Procedure

To enable single sign-on functionality for all users, do the following:

1. To open SAP Business One Service Manager, in Windows, choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.
 - In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *License Manager*.
 - Choose the *Settings* button.



2. To access the SLD service, in the *General Settings* window, choose the *Configure Security* button.



i Note

You can also access the SLD service in a Web browser on the machine on which the SLD service is running using the following URL:

<https://<hostname>:30010/ControlCenter>

3. A Web browser opens and displays the logon page for the SLD service.
4. To log on, enter the site user name and password, and then choose the *Log On* button.
5. On the *Security Settings* tab, select the *Enable Single Sign On (Log On Using Windows Domain Account)* checkbox.
6. If you want to prevent logons using SAP Business One user accounts and enforce single sign-on using domain accounts, select the *Disable logons with SAP Business One User Accounts* checkbox.
If you keep this checkbox deselected, users can log on using both SAP Business One user accounts and Windows domain accounts.
7. Choose the *Update* button.

Result

Each user must confirm the binding upon first logon. After confirmation, the user can log on to SAP Business One, using the bound Windows account.

If the system administrator has **not** disabled logons using SAP Business One user accounts, you can still log on with an SAP Business One user account (which does not have to be bound to a Windows account), as below:

1. In the logon window, deselect the *Logon with Windows Account* checkbox (or in the *Choose Company* window, deselect the *Log on with Current Domain User* checkbox).
2. Manually enter the company database name.
3. Enter your SAP Business One user name and password.
4. Choose the *OK* button.

Caution

If the system administrator has disabled logons using SAP Business One user accounts, you must bind each SAP Business One user to a Windows account and each user must confirm the binding; otherwise, logon is not possible.

9.2.3 User Authentication

As standard practice, SAP Business One and the database authenticate users by their user codes and passwords. You can change passwords at any time. In addition, the application checks the password validity of each logon attempt according to the selected security level.

If you are required to change your password, the application displays the *Password Expiration* window. You must change the password to log on.

The new password must comply with the settings of the selected security level, containing at least:

- x characters
- x lowercase characters
- x uppercase characters
- x numeric digits
- x non-alphanumeric characters

The application saves passwords in the database in encrypted form. The last n passwords are also encrypted. When appraising a new password, the application first encrypts it and then compares it with the saved ones.

The password policy defines global guidelines and rules for password settings, such as the following:

- Time interval between password changes
- Required and forbidden letters and characters
- Minimum required number of characters
- Number of logon attempts before the system locks the user account

Password policies improve the security of SAP Business One and enable administrators to apply the required security level for their organization.

Note

Only superusers can change a security level.

SAP Business One supports the following methods for increasing the security level of user authentication:

- Increase the complexity of the password.
- Increase the frequency of password changes.

For more information about working with passwords in SAP Business One, see SAP Note [978292](#).

9.3 Database Authentication

The default user name of the database administrator is `sa` and it has full authorization. Therefore, you must assign a strong `sa` password, even on servers that are configured to require Microsoft Windows Authentication. This ensures that a blank or weak `sa` password is not exposed.

Caution

If you change the database administrator account, you must re-install the System Landscape Directory. For more information, see *Installing Server Tools*.

A strong password is the first step to securing your system. A password that can be easily guessed or compromised using a simple dictionary attack makes your system vulnerable. A strong password has the following characteristics:

- Contains alphabetic, numeric, and special characters
- Is at least seven characters in length
- Is NOT a common word or name
- Does NOT contain a name or user name
- Is significantly different from previous passwords

Procedure

To set the password for the `sa` logon, do the following:

1. Log on to the server as a domain or local Windows Administrator.

2. In Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*. Upon first logon, in the *Connect to Server* window, enter the server name (if required) and under *Authentication*, select *Windows Authentication*.

 **Note**

We recommend that you create another superuser account with the same authorization as the sa user.

3. In the *Object Explorer* window, under the SQL Server instance, expand *Security* → *Logins*. Right-click *sa* and choose the *Properties* menu.
4. On the *General* page, enter and confirm the new password for the *sa* login.
5. Choose the *OK* button and close the *SQL Server Management Studio* window.

 **Caution**

To prevent dictionary attacks, create a substitute user for *sa* that can take daily responsibility for the SQL Server database assessment. For more information, see [Setting Up an Alternative Admin User](#).

9.4 Data Integrity

To improve data integrity in the database and ensure that changes are not to the database while the application is running, you can allow specified SAP Business One users to run read-only queries on the company database using the query editors in SAP Business One. You can restrict queries to read-only statements. This means user permissions are read only for SQL executions, and querying the database is done using a read-only user.

9.4.1 Adding New Databases

For databases to appear on the logon screen of the application, they must be registered with SAP Business One. You can add databases using only the System Landscape Directory.

 **Caution**

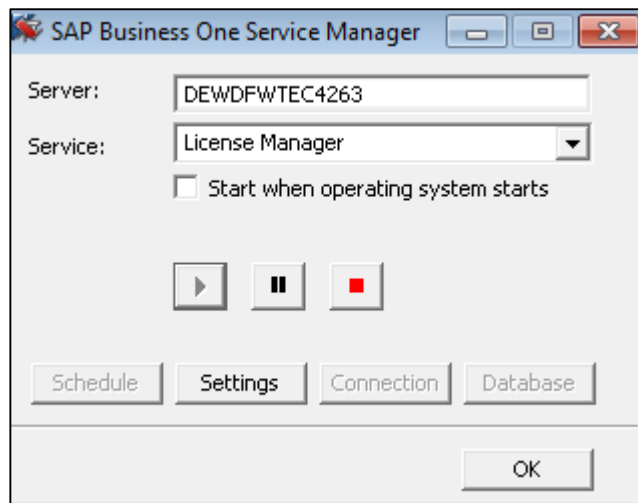
The machine running the SLD service and license server should not be accessible physically to any users except those who own the site user password.

Locate the machine running the SLD service and license server in a place that is not easily accessible to unauthorized persons.

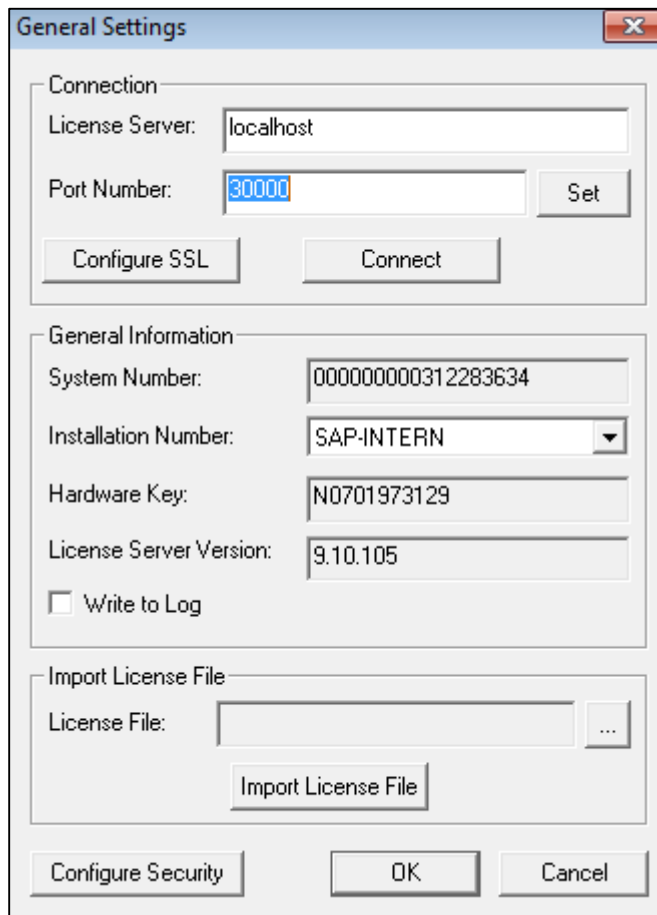
Procedure

To add new databases, do the following:

1. To open SAP Business One Service Manager, in Windows, choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.
 - o In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *License Manager*.
 - o Choose the *Settings* button.



2. To access the SLD service, in the *General Settings* window, choose the *Configure Security* button.



i Note

You can also access the SLD service in a Web browser on the machine on which the SLD service is running using the following URL:

<https://<hostname>:30010/ControlCenter>

A Web browser opens and displays the logon page for the SLD service.

3. To log on, enter the site user name and password and choose the *Log On* button.
4. On the *Servers and Companies* tab, in the *Servers* area, choose the *Add* button.
5. In the *Add Server* window, specify the following:
 - o *Server Name* — Enter the name or IP address of the database server that you want to add.

 **Caution**

Ensure that the name of the server on which you installed Microsoft SQL Server does not contain any special characters, such as: &, <, >, ", or '.

- o *Database Authentication* — Select the type of database authentication you want to use.

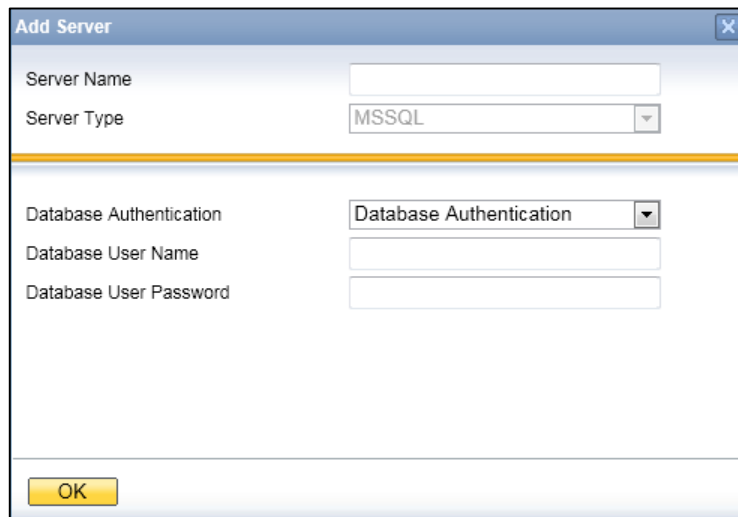
 **Recommendation**

Select the *Database Authentication* option, as *Windows Authentication* has the following limitations:

- o Windows authentication in SAP Business One is a server level configuration. All users on the same SAP Business One server can use Windows authentication to connect to Microsoft SQL Server.
- o Windows authentication requires you to maintain each computer added to the domain, while SQL Server authentication shares database users (such as sa) on the same SAP Business One server.
- o Windows authentication requires the Microsoft Windows account on which the SLD service runs to have administrative permissions on the database.

For more information about configuring trusted connections, see *Troubleshooting Security*.

- o *Database User Name* — Enter the user name of the administrator account for the database.
- o *Database User Password* — Enter the password of the administrator account for the database.



6. To add the database server, choose the *OK* button.

9.4.2 Editing Existing Databases

To edit an existing database server in the SLD, do the following:

1. Log on to the SLD service. For more information, see *Adding New Databases*.
2. On the *Servers and Companies* tab, in the *Servers* area, select the database server you want to edit. Choose the *Edit* button.
3. In the *Edit Server* window, specify the following:
 - o *Database Authentication* — Select the type of database authentication you want to use.

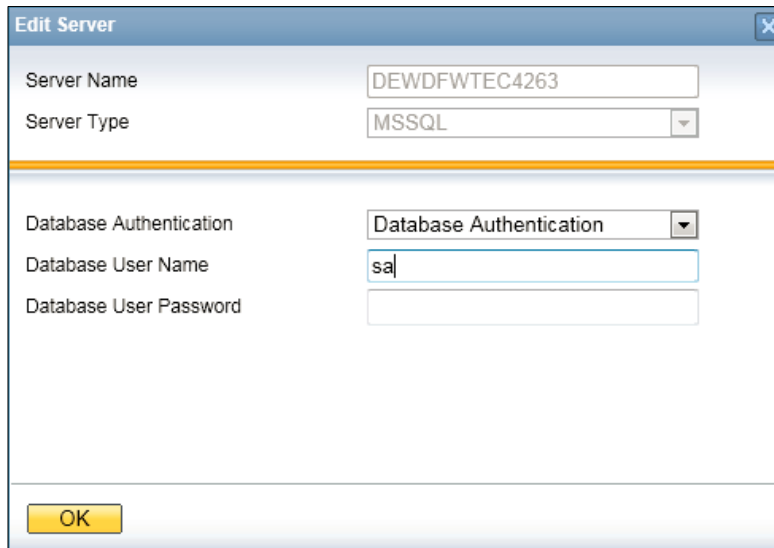
➔ Recommendation

Select the *Database Authentication* option, as *Windows Authentication* has the following limitations:

- o Windows authentication in SAP Business One is a server level configuration. All users on the same SAP Business One server can use Windows authentication to connect to Microsoft SQL Server.
- o Windows authentication requires you to maintain each computer added to the domain, while SQL Server authentication shares database users (such as *sa*) on the same SAP Business One server.
- o Windows authentication requires the Microsoft Windows account on which the SLD service runs to have administrative permissions on the database.

For more information about configuring trusted connections, see *Troubleshooting Security*.

- o *Database User Name* — Enter the user name of the administrator account for the database.
- o *Database User Password* — Enter the password of the administrator account for the database.



The screenshot shows the 'Edit Server' dialog box with the following fields and values:

Server Name	DEWDFWTEC4263
Server Type	MSSQL
Database Authentication	Database Authentication
Database User Name	sa
Database User Password	

An 'OK' button is located at the bottom left of the dialog box.

4. To save the new settings, choose the *OK* button.

9.4.3 Managing Encryption Keys

You can encrypt data in SAP Business One company databases using a static key or dynamic key.

Recommendation

We strongly recommend you use a dynamic key to encrypt SAP Business One databases.

Procedure

To enable the use of dynamic keys, do the following:

1. Log on to the SLD service. For more information, see *Adding New Databases*.
2. On the *Security Settings* tab, in the *Encryption Key Management* area, choose the *Enable Dynamic Key* button.

Note

After enabling the use of dynamic keys, you can generate a new dynamic key at any time. To do so, choose the *Enable Dynamic Key* button again.

Caution

Enabling the use of dynamic keys is an irreversible process.

3. Open the SAP Business One client application, log on to each of your company databases in turn, and accept to update the company database.

Note that this has to be done for all company databases on the servers registered in the System Landscape Directory.

9.5 SAP Business One Authentication and Authorization

SAP Business One has a mechanism to protect the database from easy changes through direct access.

The advantages of restricting access to the SAP Business One database are:

- End users are not exposed to database credentials and so cannot change the databases directly, which protects the databases from being changed or attacked.
- Database credentials are stored in the license server and end users can access the database only after the application performs a successful site user authentication through the license server.

9.5.1 Restricting Database Access

SAP Business One has a mechanism to protect the database from easy changes through direct access.

The advantages of restricting access to the SAP Business One database are:

- End users are not exposed to database credentials and so cannot change the databases directly, which protects the databases from being changed or attacked.
- Database credentials are stored in the System Landscape Directory (SLD) database and end users can access the database only after the application performs a successful site user authentication through the System Landscape Directory.

The System Landscape Directory is the central repository for credentials information, including the database user ID and password (one for all SAP Business One users).

The database credentials are stored safely in the SLD database, with additional encryption.

The security workflow is as follows:

1. Database consumers, such as the SAP Business One client, DI-API, and Services, provide their SAP Business One credentials (SAP Business One user ID and password) to authenticate against the SLD.
2. Following successful authentication, the SLD supplies its credentials and SAP Business One uses them to connect.

For more information, see Technical Landscape [Technical Landscape](#).

You can use the SLD service to create different database user accounts for each company database. After creating accounts, SAP Business One does not access company databases using the database administrator account. Instead SAP Business One uses a different read-only account supplied by the SLD service to access each company database.

9.5.2 Changing Security Levels

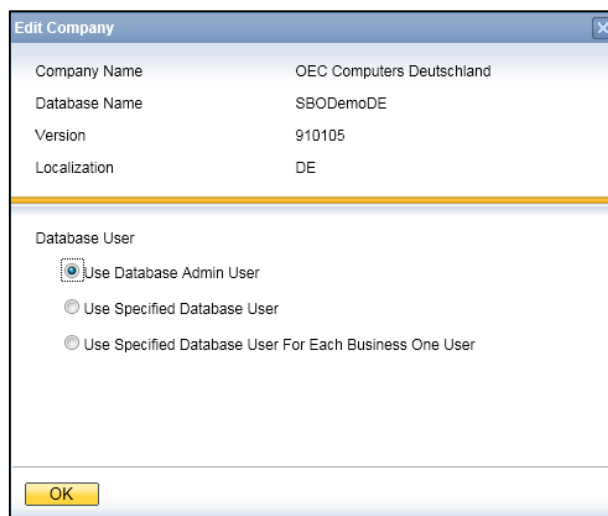
You can apply different security levels to database access through the SLD:

1. To access the SLD service, in a Web browser, navigate to the following URL:
`https://<Server Address>:<Port>/ControlCenter`
2. In the logon page, enter the site user name (B1SiteUser) and password, and then choose the [Log On](#) button.

Note

The site user name is case sensitive.

3. On the [Servers and Companies](#) tab, select the appropriate server.
The companies that are registered on the server are displayed in the [Companies](#) area.
4. In the [Companies](#) area, select the company for which you want to define the security level and choose the [Edit](#) button.
5. In the [Edit Company](#) window, select one of the following options and choose the [OK](#) button:
 - o [Use Database Admin User](#): SAP Business One accesses the database using an SAP administrator account.
 - o To grant read-only authorization to non-superusers for queries (system and user-defined) in SAP Business One, you must manually create a read-only database user and assign it to the company database. For more information, see [Queries](#).
 - o [Use Specified Database User](#): The system automatically generates a pair of database users without the administrator privileges. SAP Business One accesses the database using one of the database users, depending on the specific database transaction.
 - o [Use Specified Database User for Each Business One User](#): Most secure and recommended. The system automatically generates a pair of database users without the administrator privileges for each SAP Business One user. SAP Business One accesses the database using one of the database users, depending on the login SAP Business One user and the specific database transaction.



Whenever a new SAP Business One user is added, a pair of corresponding database users is added. For the second and third options, you do not have to manually create a read-only database user for queries. For more information, see *Queries*.

6. If you selected the second or third option, you can configure the SLD service to automatically change the password of the automatically-created database users on a regular basis, as follows:
 1. On the *Security Settings* tab, in the *Authentication* area, select the *Change Database User Password Every <Number> Days* checkbox.
 2. Enter the number of days between password resets.
 3. Choose the *Update* button.

9.6 Network Security

We strongly recommend using SAP Business One in trusted environments only (corporate LAN with firewall protection).

9.6.1 Communication Channels

TCP provides the communication channels between the following:

- SAP Business One server ↔ SAP Business One clients
- SAP Business One server ↔ SAP Business One license server
- SAP Business One server ↔ the agent of the remote support platform for SAP Business One
- SAP Business One license server ↔ SAP Business One clients
- System Landscape Directory ↔ SAP Business One clients

The default communication port is 1433.

The default ports of the SAP Business One license server are 30000 for license communication and 30001 for the license naming service.

The default ports of the SAP Business One license server are 30003 for SSL-encrypted license communication and 30002 for the SSL-encrypted license naming service.

The default port of the SLD service is 30010.

9.6.2 SSL Encryption

You can secure the following communication channels using SSL encryption:

- SAP Business One server ↔ SAP Business One clients
- SAP Business One license server ↔ SAP Business One clients

Note

Using SSL encryption may degrade network performance. SSL encryption requires certificates, which are time limited and require annual renewal. You can acquire the necessary certificates using either of the following methods:

- Third-party Certificate Authority
You can purchase certificates from a third-party global Certificate Authority that Microsoft Windows trusts by default.
- Certificate Authority Server
You can configure a Certificate Authority (CA) server to issue certificates. If you choose this method, you must configure all machines in your SAP Business One landscape to trust the CA's root certificate.

9.6.2.1 Encrypting Communication with Databases

To secure the TCP/IP communication channel between the database server and SAP Business One clients, you can implement SSL encryption. This prevents SAP Business One application data, including the database credentials, from being exposed.

SAP Business One fully supports SQL SSL. We recommend that you implement SSL in SAP Business One without making configuration changes in SAP Business One. For more information, see <http://support.microsoft.com/kb/316898> or contact your IT administrator.

For information about Microsoft SSL encryption guidelines, see www.msdn.microsoft.com and search for the following topics:

- Net-Library Encryption
- Client Net-Libraries

9.6.2.2 Encrypting Communication with License Servers

To secure the TCP/IP communication channel between the SAP Business One license server and SAP Business One clients, you can implement SSL encryption. Communication between the license server and DI API is also encrypted.

Prerequisites

- You have installed OpenSSL (32-bit) on the SAP Business One license server.
- You have installed OpenSSL on the client machines to which you want to encrypt communication, as follows:
 - If you are using the 32-bit version of the SAP Business One client and DI API, install the 32-bit version of OpenSSL.
 - If you are using the 64-bit version of the SAP Business One client and DI API, install the 64-bit version of OpenSSL.

Procedure

To implement SSL encryption for communication between the SAP Business One license server, do the following:

1. Prepare the following two certificates:

1. `ClientCert.crt`: a public key certificate for SAP Business One Client use.
2. `ServerCert.pfx`: a PKCS12 format certificate, for license server use.

i Note

- Both certificates include a private key and public key. `ServerCert.pfx` must be signed by the private key of `ClientCert.crt`.

i Note

- If you choose to purchase a signed certificate from a trusted third-party global Certificate Authority (CA), ensure that there is a public key certificate for the CA in your Windows Certificate Store.
- If you do not choose to purchase a signed certificate from a trusted third-party global Certificate Authority (CA), you can manually generate certificates for both the SAP Business One Client and license server. To do so, perform the following:
 1. Navigate to the directory in which OpenSSL is installed (for example, `C:\`, `C:\OpenSSL-Win32\bin`).
 2. Enter the following command lines in OpenSSL:
 - To generate a private key for SAP Business One Client, enter the following command:
`openssl genrsa -des3 -out ClientKey.key 1024`
 - To remove the passphrase for the SAP Business One Client certificate, enter the following command:
`openssl rsa -in ClientKey.key -out ClientKey.key`
 - To generate a private key for the license server, enter the following command:
`openssl genrsa -des3 -out ServerKey.key 1024`
 - To remove the passphrase of the license server certificate, enter the following command:
`openssl rsa -in ServerKey.key -out ServerKey.key`

- To generate a self-signed certificate for the SAP Business One Client (also used to sign the license server certificate), enter the following command:
 - `openssl req -new -x509 -key ClientKey.key -out ClientCert.crt -days 3650`
 - To generate a certificate request from the private key of the certificate for the license server, enter the following command:
 - `openssl req -new -key ServerKey.key -out ServerCertReq.csr`
 - To request the SAP Business One Client certificate to sign the license server certificate, enter the following command:
 - `openssl x509 -req -days 3650 -in ServerCertReq.csr -CA ClientCert.crt -CAkey ClientKey.key -CAcreateserial -out ServerCert.crt`
 - To create a PKCS12 format certificate for the license server from the private key and public key, enter the following command:
 - `certificate.openssl pkcs12 -export -inkey ServerKey.key -in ServerCert.crt -out ServerCert.pfx`
2. When the certificates for the SAP Business One Client and license server are ready, import them as follows:
- To import the certificate for the license server, do the following:
 1. To open the Microsoft Management Console (MMC), choose *Start* and enter `mmc` in the search box.
 2. In the *Console Root* window, in the menu bar, choose *File* → *Add/Remove Snap-in...*
 3. In the *Add or Remove Snap-ins* window, select *Certificates* and then choose *Add*.
 4. In the *Certificates snap-in* window, choose the *Computer account* radio button and then choose *Next*.
 5. In *Select Computer* window, choose the *Local computer: (the computer this console is running on)* radio button, choose *Finish*, and then choose *OK*.
 6. In the *Console Root* window, click *Certificates (Local Computer)*, click the `PERSONAL` folder, right-click *Certificate*, and select *All Tasks* → *Import...*
 7. In the *Certificate Import Wizard* window, choose *Next*.
 8. Choose the location of the license server certificate (`ServerCert.pfx`) and then choose *Next*.
 9. Enter the password of the private key (if you generate the certificate yourself, use the password you entered in last the step described in the *Prerequisites* section), then select the *Mark this key as exportable...* checkbox and choose *Next*.
 10. Choose *Next* and *Finish*.
 - To import the certificate for the SAP Business One Client, do the following:
 1. To open the Microsoft Management Console (MMC), choose *Start* and enter `mmc` in the search box.
 2. In the *Console Root* window, in the menu bar, choose *File* → *Add/Remove Snap-in...*
 3. In the *Add or Remove Snap-ins* window, select *Certificates* and then choose *Add*.
 4. In the *Certificates snap-in* window, choose the *My user account* radio button and then choose *Next*.
 5. In the *Select Computer* window, choose *Local computer: (the computer this console is running on)*, choose *Finish*, and then choose *OK*.
 6. In the *Console Root* window, click *Certificates (Local Computer)*, click the `PERSONAL` folder, right-click *Certificate*, and select *All Tasks* → *Import...*
 7. In the *Certificate Import Wizard* window, choose *Next*.
 8. Choose the location of the SAP Business One Client (`ClientCert.crt`), and then choose *Next*.
 9. Choose *Next* and *Finish*.
3. Configure the license server:

1. Import a valid SSL certificate to the Windows Certificate Store.
 2. In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *License Manager*.
 3. Choose the *Settings* button.
 4. In the *General Settings* window, choose the *Configure SSL* button.
 5. In the *SSL Settings* window, choose the *Enable* button.
 6. In the *Windows Security* window, select the valid SSL certificate that you imported in step 2.
 7. Choose the *OK* button.
4. Configure client machines:
1. In `HKEY_LOCAL_MACHINE\SOFTWARE\SAP\SAP Manage\SAP Business One`, add the following registry key:
 - o Key name – `UseSSLInLicenseConnection`
 - o Key type – `REG_DWORD`
 - o Key value – `0x0` (disabled) or `0x1` (enabled)
 2. Configure the client machine to trust the root certificate of your certificate authority server.

9.7 Application Security

SAP Business One provides features to ensure that unauthorized access to the application does not occur.

9.7.1 Password Encryption

In SAP Business One, a strong algorithm is used for data encryption and decryption. The site user ID and password are encrypted and saved in the System Landscape Directory.

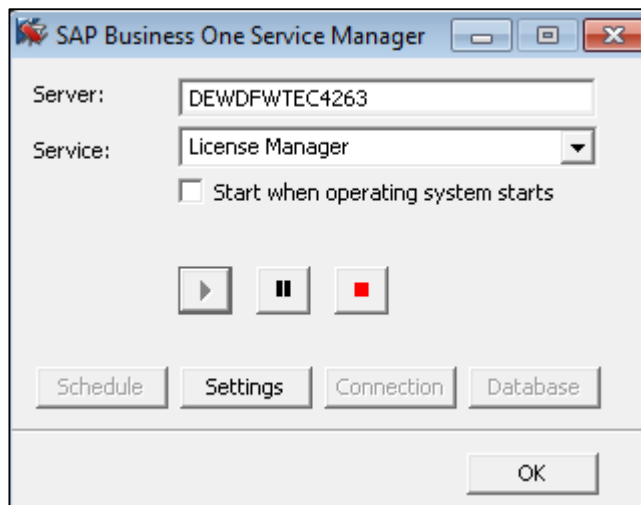
Recommendation

Set a site user password that is at least as strong as that defined in the company password policy, and change it frequently.

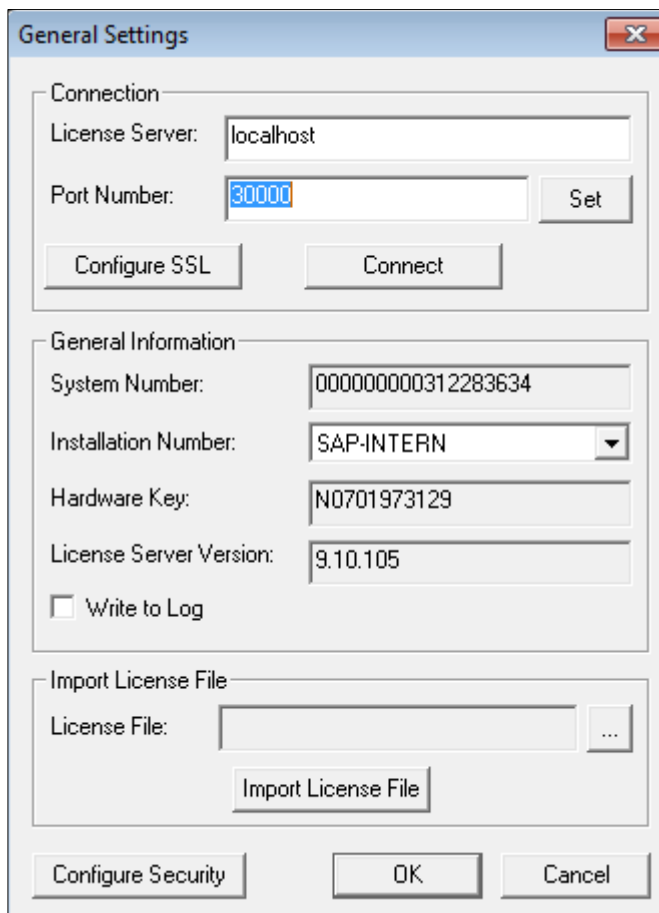
You can change the site user password using the SLD by providing the current password or authenticating with database credentials to prove you have at least a database administration level.

To change the site user password, do the following:

1. To open SAP Business One Service Manager, in Windows, choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.
 - o In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *License Manager*.
 - o Choose the *Settings* button.



2. To access the SLD service, in the *General Settings* window, choose the *Configure Security* button.



i Note

You can also access the SLD service in a Web browser using the following URL:

<https://<hostname>:30010/ControlCenter>

3. A Web browser opens and displays the logon page for the SLD service.
4. To log on, enter the site user name and password and choose the *Log On* button.
5. On the *Security Settings* tab, in the *Site Password* area, choose the *Change* button.
6. In the *Change Site Password* window, enter the current password, then enter and confirm the new password you want to use.

7. To complete the process and change the password, choose the *OK* button.

9.7.2 B1_SHR Folder Permissions

The SAP Business One server installation process creates the B1_SHR folder, which contains the SAP Business One client setup files.

Operating System	User	SBO_SHR Permission
Microsoft Windows 2003 Server, Microsoft Windows 2003 R2, Microsoft Windows 2003 Server Small Business, Microsoft Windows XP and Microsoft Windows 7	Power User	Modify and Write
	User	Read and execute List folder contents Read

9.7.3 Queries

The query wizard and query generator enables you to define queries on the SAP Business One database. These tools are designated for `SELECT` sentences only and cannot be used for any kind of update operation. To protect your data, we recommend that you make sure users have the appropriate permissions. However, the data results returned are not filtered according to the user's authorization.

Granting Read-Only Authorization for Query Results

To enable an SAP Business One user to view the results of both system and user-defined queries, you can directly grant the user full authorization to the `Execute Non-select SQL Statement` permission item in the *General Authorizations* window in the SAP Business One client application. However, we recommend that you grant read-only authorization to all non-superusers in one of the following ways:

- Do the following:

Recommendation

1. Configure SAP Business One to access your company database using database users without administrator privileges.
2. Grant No authorization to all non-superusers in the *General Authorizations* window.

This way, users with No authorization to the `Execute Non-select SQL Statement` permission item will access the database through a read-only database user while users with authorization to the permission item will access the database through another database user with lower database privileges.

- If you configure SAP Business One to access your company database using a database administrator user, do the following:
 1. Apply No authorization to all users to the `Execute Non-select SQL Statement` item.
 2. Create a read-only database user in SAP Business One and define the user password.
 3. Assign the database user to the company in the *Read-Only DB User* window in the SAP Business One client application. For more information, see the online help.

For more information about configuring the way SAP Business One accesses your company database, see [Restricting Database Access](#).

9.7.4 Add-On Access Protection

When you install an add-on, SAP Business One creates a unique digital signature using the MD5 technique (message-digest algorithm). SAP Business One identifies the add-on by validating its digital signature.

9.7.5 SAP Business One Dashboards

Dashboards are an element of the cockpit, which is delivered as part of SAP Business One. They present an easy-to-understand visualization, such as a bar or pie chart, of transactional data from the SAP Business One database. With SAP Business One, SAP delivers predefined dashboards for financials, sales, and service. In addition, SAP Business One partners and customers can create their own dashboards.

Recommendation

When you receive dashboard content from your partner, we recommend that you copy this content to a computer that has a state-of-the-art virus scanning solution with the most current virus signature database installed and scan the file for infections before uploading the it to the server.

9.8 Security Solutions for Microsoft SQL Server and Database Tips

We recommend that you take the following actions to ensure the security of your Microsoft SQL Server.

9.8.1 Upgrading Microsoft SQL Server

We recommend upgrading the SQL server to the latest service pack. Furthermore, administrators should regularly consult the SQL Server Security Center at www.microsoft.com.

Note

You must upgrade SAP Business One before upgrading the Microsoft SQL Server if the existing version of SAP Business One does not support the newer SQL version.

For information about the upgrade sequence for Microsoft SQL Server, see the following documents:

- SAP Note [928839](#).
- "[Hardware and Software Requirements for Installing SQL Server 2014](#)" as stipulated by Microsoft® Corp.

9.8.2 Securing Microsoft SQL Server

Since SAP Business One is a two-tier application, much of the application security depends on the database server security and on the authorization mechanism. Be aware that users can access the database using tools other than SAP Business One and, therefore, can modify the logon information. To secure your database, we recommend adhering to Microsoft security guidelines. For more information, see the Microsoft documents at www.microsoft.com.

9.8.2.1 Setting Up an Alternative Admin User

If you are using SQL authentication, when you register a database server in the SLD (9.0 and higher) or license server (release family 8.8), you need to specify a database admin user for the server. This alternative admin user can be used for creating and upgrading companies and performing other landscape management tasks in the SLD.

Procedure

To create an alternative admin user account for maintaining administration tasks for SAP Business One, do the following:

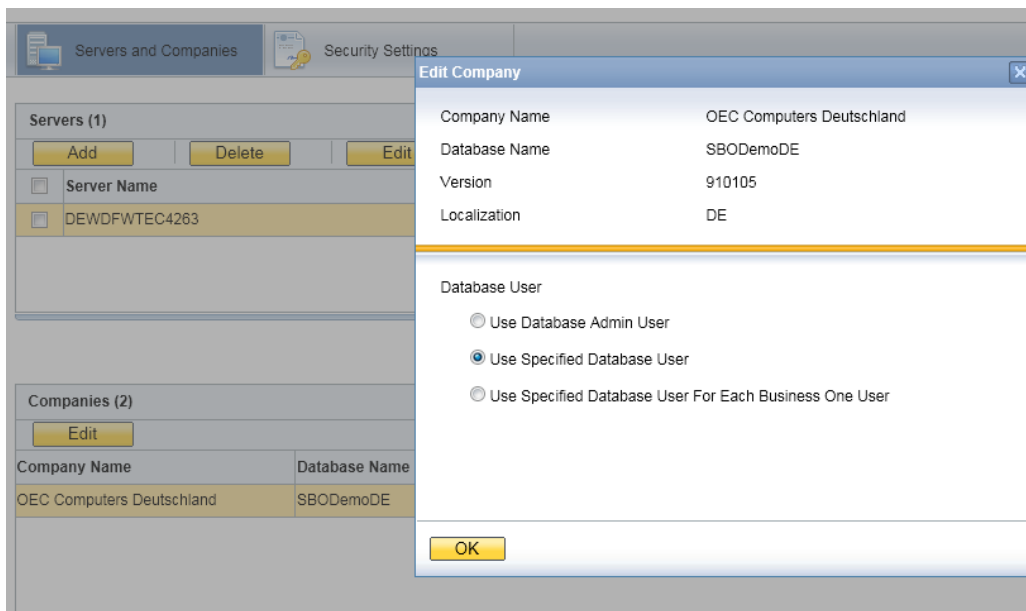
1. In Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008* → *SQL Server Management Studio*.

2. In the *SQL Server Management Studio Object Explorer* window, choose *Security* → *Logins*.
3. Right-click the *Logins* folder and choose *New Login*.
The *Login - New* window appears.
4. On the *General* tab, select *SQL Server authentication* and enter a strong password.
5. On the *Server Roles* tab, select *sysadmin*.
6. Choose the *OK* button.

➔ Recommendation

When you create a company database in 9.1 or higher, we recommend that you enable the database user per company in SLD. To do so, perform the following:

1. Log on to the SLD service. For more information, see *Adding New Databases*.
2. Selecting the appropriate server and company and then choose the *Edit* button.



3. In the *Edit Company* window, select the *Use Specified Database User* radio button.
The SLD creates a database user for this company with the appropriate database roles, which is then used by the SAP Business One client to connect to the database.
4. Choose the *OK* button.

If you are using **Microsoft Windows authentication**, you must grant SAP Business One admin users the *sysadmin* and *public* server roles. When creating or upgrade companies, you must use this admin user to launch the SAP Business One client or upgrade wizard.

For normal SAP Business One users, you need to grant admin users the following roles:

- For the common database: *db_datawriter* and *db_datareader*
- For the company database: *db_owner*

Note

You cannot set up a local user which is not in the Active Directory.

9.8.3 Revoking Guest Access to the msdb Database

1. To open SQL Server Management Studio, in Windows, choose *Start* → *All Programs* → *Microsoft SQL Server 2008*.
2. In the *Connect to Server* window, specify values in the *Server name* and *Authentication* fields, and choose the *Connect* button.
3. In the *SQL Server Management Studio Object Explorer* window, choose *Databases* → *System Databases* → *msdb* → *Security* → *Users*.
4. In the structure, right-click the *Guest* user and choose *Delete*.

9.9 Data Storage Security

The security of the data saved in SAP Business One is generally the responsibility of the database provider and your database administrator. As with your application infrastructure, most of the measures that you should take depend on your strategy and priorities.

There are a few general measures, as well as database-specific measures, that you can take to increase the protection of your data. Details are provided in the following sections:

- Exporting the Configuration File
- Importing the Configuration File
- Configuration Logs and User Settings

9.9.1 Exporting Configuration Files

To secure your data, we recommend that you export your security configuration file right after you finish installing the license server and the SAP Business One server.

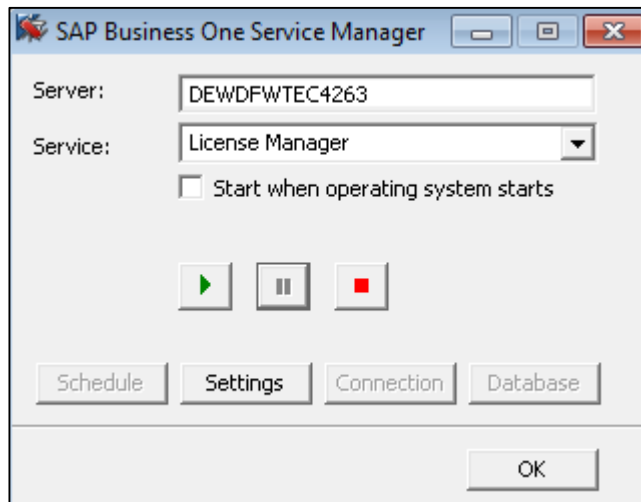
The configuration file contains the following important information:

- Site user password
- Database information
- Read-only database user information
- Algorithm information

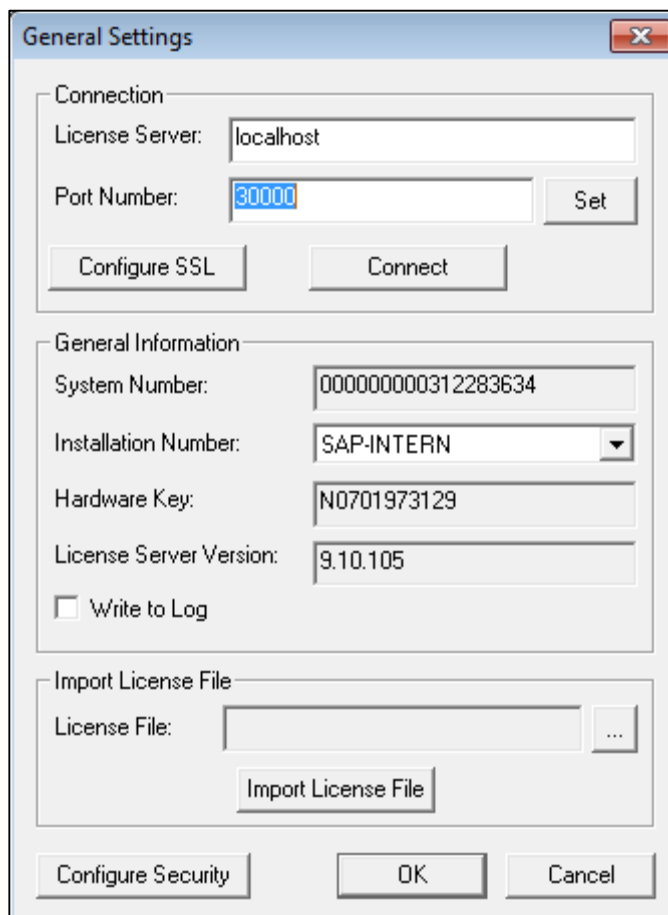
Procedure

To export the security configuration file, do the following:

1. To open SAP Business One Service Manager, choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.
2. In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *License Manager* and choose the *Settings* button.



3. To access the SLD service, in the *General Settings* window, choose the *Configure Security* button.



Note

You can also access the SLD service in a Web browser using the following URL:

<https://<hostname>:30010/ControlCenter>

4. A Web browser opens and displays the logon page for the SLD service.
5. To log on, enter the site user name and password and choose the *Log On* button.
6. On the *Security Settings* tab, in the *Encryption Key Management* area, choose the *Export Dynamic Key* button.

Recommendation

The site user password is required if you later import the security configuration file to restore the configured security settings. Thus, keep a record of the site user password when you are exporting the configuration file, especially if you want to change the site user password after the configuration file is exported.

9.9.2 Importing Configuration Files

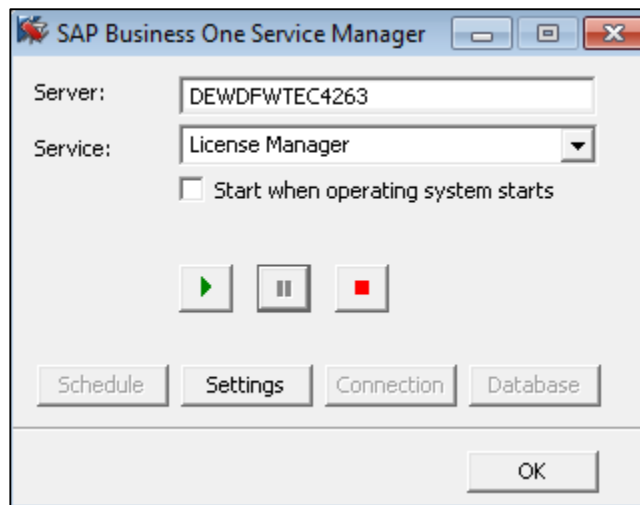
If your license server crashes or is corrupted, you must set up a new license server. After the new license server is started up, to restore all the security settings you had before, you can import the security configuration file.

Prerequisites

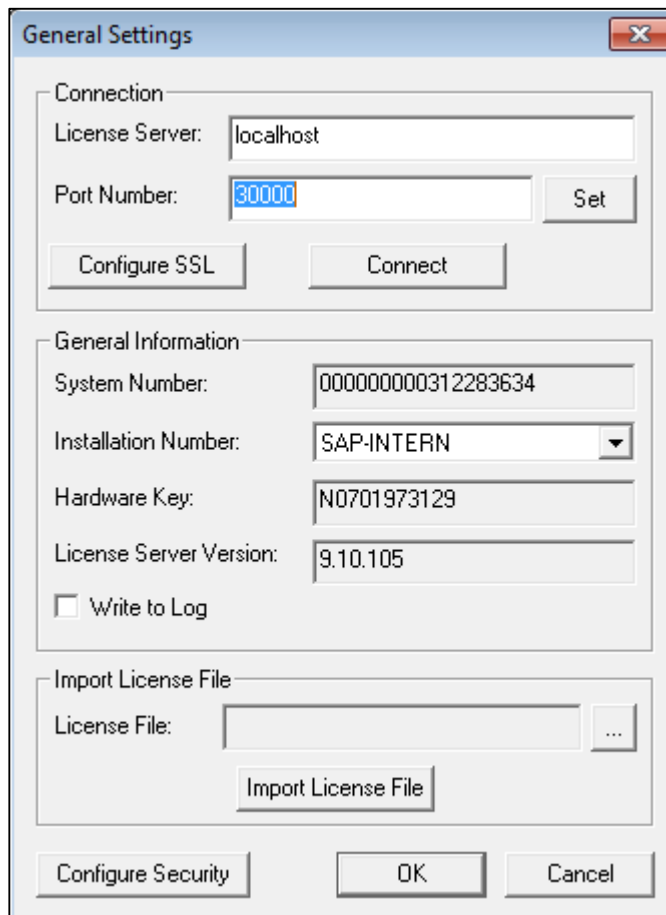
- You have a record of your old security configuration file. For more information, see [Exporting Configuration Files](#).
- You have placed the appropriate configuration file on the server under the directory: `C:\Program Files (x86)\SAP\SAP Business One ServerTools\System Landscape Directory\incoming`.

Procedure

1. To open SAP Business One Service Manager, choose *Start* → *All Programs* → *SAP Business One* → *Server Tools* → *Service Manager*.
2. In the *SAP Business One Service Manager* window, from the *Service* dropdown list, select *License Manager* and choose the *Settings* button.



- To access the SLD service, in the *General Settings* window, choose the *Configure Security* button.

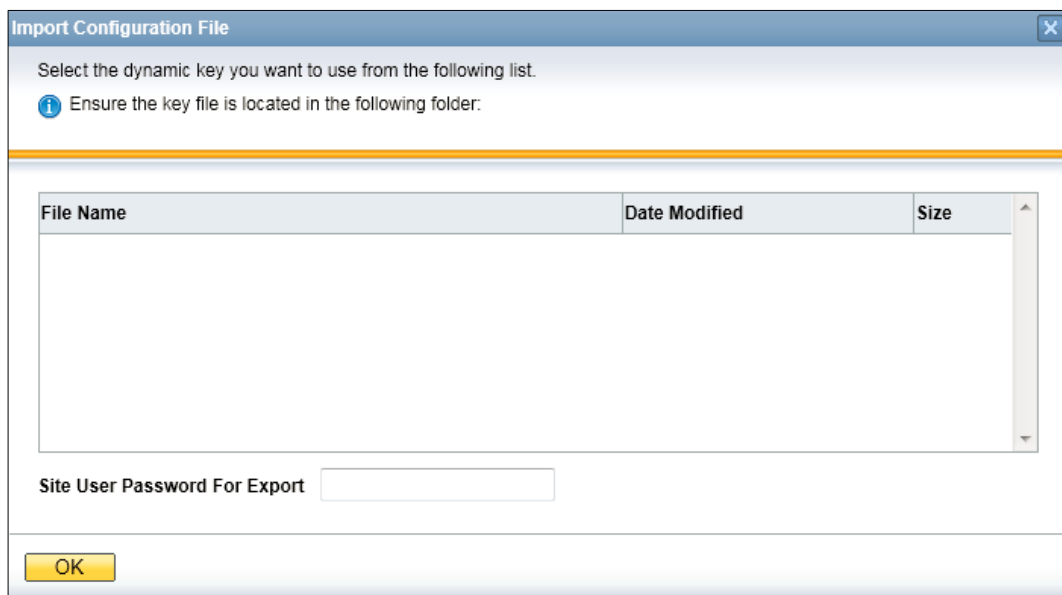


i Note

You can also access the SLD service in a Web browser using the following URL:

<https://<hostname>:30010/ControlCenter>

4. A Web browser opens and displays the logon page for the SLD service.
5. To log on, enter the site user name and password and choose the *Log On* button.
6. On the *Security Settings* tab, in the *Encryption Key Management* area, choose the *Import Dynamic Key* button.
7. In the *Import Dynamic Key* window, do the following:
 - o Select the configuration file that you want to import.
 - o In the *Site User Password For Export* field, specify the site user password you had when the configuration file was exported.
 - o To import the file, choose the *OK* button.



9.9.3 Configuration Logs and User Settings

In SAP Business One, configuration changes are logged in files formatted as xxx.pidxxxxx (xxx after pid can be the date, such as 20100325, so that you can find the latest log file) under %UserProfile%\Local Settings\Application Data\SAP\SAP Business One\Log\BusinessOne.

The configuration changes include:

- Adding/Removing users
- Changing a user to a superuser / non superuser
- Changing user passwords
- Changing user permissions
- Changing password policy
- Changing company details

i Note

To find the logs containing changes to company details, do the following:

1. From the SAP Business One *Main Menu*, choose *Administration* → *System Initialization* → *Company Details*.
2. In the menu bar, choose *Tools* → *Change Logs*.

However, the following configurations cannot be logged:

- Changing data ownership authorizations
- Changing data ownership exceptions
- Changing license settings
- Setting Read-Only DB users

If you fail to log on to SAP Business One, the log is recorded in the Event Viewer.

As of SAP Business One 2007, any specific user settings are saved in a file named `bl-current-user.xml` under `C:\Documents and Settings\XXX(user id)\Local Settings\Application Data\SAP\SAP Business One`. In this situation, if a user changes his or her settings in SAP Business One, the changes are saved in this folder and do not affect other users' settings.

9.10 Security Information for Integration Solutions

9.10.1 Security Aspects Related to the DATEV-HR Solution

This scenario requires maximum levels of data security and sensitivity, because it exports personal data. The DATEV-HR scenario generates employee data for DATEV eG using SAP Business One data. The integration framework writes the data to a specified directory in the file system. Make sure that only authorized persons have access to the folder.

Ensure that only authorized persons have access to the integration framework administration user interfaces. Alternatively, collect confirmations from all users who have access that they are aware that this data is sensitive, and that they may not distribute any data to third parties or make data accessible to non-authorized persons.

9.10.2 Security Aspects Related to the Mobile Solution

After the mobile user enters the correct user name and password, the front-end application passes the mobile phone number and mobile device ID (MAC address), together with the user name and password, to integration framework.

After receiving the information, the integration framework verifies the following:

- Whether the user is enabled as a mobile user
- Whether the necessary license is assigned to the user
- Whether it can find the telephone number and device ID pair in the SAP Business One user administration
- Whether the user name matches the telephone number and the device ID
- Whether the user has been blocked by the SAP Business One system
- Whether the provided password is correct

Then the user is allowed to access the system.

The password is encrypted while it is transmitted to the integration framework, which decrypts the password after receiving it.

Using HTTPS

To make communication safer, you have the option to use HTTPS for the sessions in the integration framework. On the server side you can configure the communication protocol (HTTP or HTTPS). On the client side, you have the option to switch to the HTTPS protocol. By default, the solution runs with HTTPS, and the integration framework allows incoming calls through HTTPS only.

SAP Business One mobile apps require a valid SSL certificate. For more information about obtaining and installing valid certificates, see SAP Note [2019275](#).

License Control

All mobile users have to be licensed before being allowed to access the SAP Business One system through the mobile channel. License administration is integrated with the SAP Business One user and license.

The mobile user also needs the assignment of the B1i license. Authorization within the SAP Business One application depends on the user's SAP Business One application license.

9.10.3 Security Aspects Related to the Integration with SAP Customer Checkout

All connections between SAP Customer Checkout and the integration framework are http connections that can be secured. The system landscape directory entries related to SAP Customer Checkout are 001sap0011 and 001sap0013 configured using basic authentication with user name and password.

The technical connection to the SAP Customer Checkout monitor (001sap0013) is an http connection using basic authentication.

9.10.4 Security Aspects Related to the RFQ Scenario with Online Quotation

Note

The configuration information for the RFQ integration solution is available in the integration framework. To access the documentation, logon to the integration framework, choose *Scenarios* → *Control*, and for the `sap.B1RFQ` scenario package, choose the *Docu* button.

You must provide vendors included in the RFQ process access to the online purchasing document on the integration framework server.

You can accomplish this by restricting access to the server to a minimum. To restrict access to the server, configure the network (NAT) firewall as shown below:

- Only allow external access to the particular hostname / IP-address
- Only allow external access to the configured server port.
Default: port 8080 for HTTP, or port 8443 for HTTPS
- If applicable and available for the particular firewall, configure the restricting URL:
`http://<hostname>:<portnumber>/BliXcellerator/exec/ipo/vP.0010000100.in_HCSX/com.sap.bli.vplatform.runtime/INB_HT_CALL_SYNC_XPT/INB_HT_CALL_SYNC_XPT.ipo/proc?`

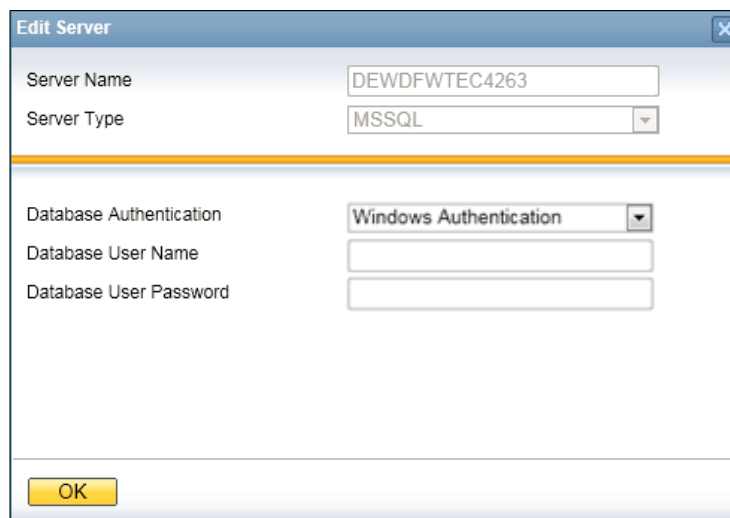
9.11 Troubleshooting Security

Windows Authentication support is only for SAP Business One backward compatibility.

To configure Windows Authentication, you must provide Windows credentials.

Ensure the following prerequisites:

- The Windows user has permission to start the SAP Business One license service.
- The Windows user is registered in Microsoft SQL Server.



Ensure that your Microsoft Windows account has rights to log on to the license server, because after Windows Authentication is configured, the license server service runs with this Windows account.

To check the configuration of your Microsoft Windows account on the computer where your license server is running, do the following:

1. In Windows, choose *Start* → *Control Panel* → *Administrative Tools* → *Local Security Policy*.
2. In the *Local Security Policy* window, choose *Local Policies* → *User Rights Assignment*.
3. In the *User Rights Assignment* window, select the *Log on as a service* item and double-click the item.
4. In the *Log on as a service Properties* window, choose the *Add User or Group* button.
5. Check if your Microsoft Windows account is in the *Enter the object names to select (examples)* field, and if not, add it and try again.

To check or correct your computer name, which is necessary to install Microsoft SQL Server, do the following:

1. In Windows, choose *Start* → *Control Panel* → *System*.
2. In the *System Properties* window, select the *Computer Name* tab.
3. In the *Computer name* field, check the computer name.
4. To correct the computer name, choose the *Change* button.
5. In the *Computer Name/Domain Changes* window, specify a new name for the computer and choose the *OK* button.

Cannot change database user password for System Landscape Directory

When installing the System Landscape Directory (SLD), you must fill in the account information of an SAP Business One database administrator user. If you change the password of the database user after the installation, the SLD stops working.

To update the database user password, perform the following steps:

1. On the server, navigate to the folder `<Installation Path>\System Landscape Directory\tools\`.
2. Execute the batch file `update_db_credential.bat`.
3. In the command prompt, enter the following information step by step:
 1. Path to the `server.xml` file (`<Installation Path>\System Landscape Directory\tomcat\conf\server.xml`).
 2. JDBC URL: If you have not changed the hostname or IP address of the SQL server, you can directly press ENTER to skip this step. The format of the URL is:

```
jdbc:sqlserver://<Hostname/IP>\<Instance Name>:<Port>; DatabaseName=<SLD Database>
```
 3. The database user name.
 4. New password for the database user.

Cannot change security certificate for System Landscape Directory

If you use a database user to install the System Landscape Directory (SLD) and then later change the password for the database user, the SLD cannot connect to the SAP Business One client and you are unable to change the certificate for secure connection to the SLD.

To update the certificate, perform the following steps:

1. On the server, navigate to the folder `<Installation Path>\System Landscape Directory\tools\`.
2. Execute the batch file `update_https_certificate.bat`.
3. In the command prompt, enter the following information step by step:
 1. Path to the tomcat server for the SLD (`<Installation Path>\System Landscape Directory\tomcat\`).
 2. Path to the new certificate.
 3. Password for the new certificate.



10 Getting Support

We recommend that you assign a contact person who can deal with issues concerning SAP Business One. This contact person should follow the support process described below. If you cannot solve a problem using this process, contact SAP support.

Note

Before you contact SAP support, check the version information of your SAP Business One application.

To view the version number, from the SAP Business One *Help* menu, choose *About*.

You can get support from your partner using either the Customer Portal or the Hotline.

The Hotline is a number provided by your partner that you can call to get support during official support hours. The partner support staff logs the problem on SAP Service Marketplace. The partner support staff try to solve your problem. If they are unsuccessful, they forward the problem to the SAP Support team.

Recommendation

You can log your problem message in SAP Business One Customer Portal at <http://service.sap.com/smb/sbocustomer/documentation>. This lets you track the status of the message. Your SAP Business One partner can provide a user name for this portal. There you can find more information about how to create a message and track its status.

10.1 Using Online Help and SAP Notes

If you have a question or problem concerning SAP Business One, check the online help.

If that does not provide an answer, search for corresponding SAP Notes, as follows:

Procedure

1. Log on to the SAP Business One portal as follows:
 - o If you are a partner, log on to <http://sappartneredge.com>.
 - o If you are a customer, log on to <https://service.sap.com/smb/sbocustomer>.
2. Choose the SAP Notes option.

You can either display a Note directly by providing the number of the Note, or you can search for a Note by entering key words.

Recommendation

The following example illustrates the difference between a usable and an unusable search.

Problem Message

```
"The performance of the SAP Business One program is not acceptable. Executing all operations takes a long time. The problem occurs only on one front-end."
```

- Use: Key words **Performance** and **Front End**. Specify the component SBO-BC*
- Do not use: Phrases such as SAP Business One runs long or SAP Business One is too slow.

10.2 Using the Support Desk

You can use the support desk to search for known solutions in the SAP support database on SAP Service Marketplace. The support desk establishes a direct link to SAP Service Marketplace, which stores all the known solutions to known problems.

For more information, see the online help for SAP Business One on the SAP Business One product DVD or in the documentation area of SAP Business One Customer Portal at <https://service.sap.com/smb/sbocustomer/documentation>.

Prerequisites

You have a valid S user ID number.

An S user has authorization to access online support functions offered by SAP. The S user ID information is shipped with the SAP Business One product. If this information is missing or incorrect, contact your SAP Business One partner.

Procedure

To find solutions on SAP Service Marketplace, do the following:

1. From the SAP Business One menu bar, choose *Help* → *Support Desk* → *Find a Solution*.
The *Support Desk – Find a Solution* window appears.
2. In the *Search Term* field, enter one or more words for which to search.
You can search for key words or phrases of up to 60 characters.
3. Choose the *Find* button.
The system calls up the connection to SAP Service Marketplace.
4. Specify your S-user ID and password.
The system defaults your search criteria and the application area to SBO* and starts the search.



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