

# Brainware for Invoices

## Installation and Setup Guide

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## About Brainware for Invoices

Brainware for Invoices is a multi-tenanted, out-of-the-box Accounts Payable solution that automates data entry for invoices and credit notes.

The solution is able to capture invoice information such as the invoice number, purchase order number and dates, identify the invoice vendor and line items automatically, and then make this data available to use with your business information and document management systems. Brainware for Invoices also includes processes for line pairing, VAT compliance checking, the automatic assignment of ERP system tax codes to invoice line items, miscellaneous charge handling, and solution reporting.

Brainware for Invoices can be integrated with almost any environment and includes the following components.

- Visibility for auditing and reporting purposes.
- Thick and thin Verifier clients for document quality-assurance purposes.
- Perceptive Content (optional).

### **Note:**

Brainware for Invoices has adopted a new version structure. Brainware for Invoices 22.1 is the latest release following Brainware for Invoices 3.5.

## Supported Accounts Payable documents

Brainware for Invoices supports the following document types.

- Vendor invoices
- Vendor credit memos
- Subsequent debits and credits
- Third party freight invoices

Additional document types, such as statements or travel and expense forms, need to be configured within the solution as new document base classes.

## Installation Process

You can install Brainware for Invoices using the Brainware for Invoices Installer or manually.

### Installation Procedure using Brainware for Invoices Installer

You can use the BFI installer to install Brainware for Invoices.

The following steps are a high-level overview of the procedures that you need to perform to install Brainware for Invoices using the installer.

- Run the Brainware\_Invoice\_Solution.exe as administrator.
- Read and acknowledge the warning message prior to installation.
- Read and accept the End User License Agreement.
- Select an installation directory and project file name.
- Select a database creation option.
- Define the configuration database connection string.
- Define the reporting database connection string.
- Define the Intelligent Capture Application Library (ICAL) installation path.
- Define the Runtime Service instance configurations.
- Complete the installation.

## About Brainware for Invoices Installer

The Brainware for Invoices installer installs Brainware for Invoices (BFI) 22.1 on a server with Brainware Intelligent Capture EP1 or higher running on it. The installer automates the following:

- Creation of project directory structure and copying of Brainware for Invoices related files.
- Creation of Intelligent Capture Application Library (ICAL) directory and DLL registration.
- Creation of BFI configuration database.
- Creation of BFI reporting database.
- Creation of BFI specific registry values.
- Creation of Run Time Server instances.

## Software Prerequisites

### Brainware Intelligent Capture

The Brainware for Invoices installer requires Brainware Intelligent Capture EP1 or higher and must be executed on a server with Intelligent Capture Runtime Server.

### Microsoft .NET Framework 4.6

Brainware for Invoices needs .NET Framework 4.6 to run. Prior to executing the installer, it must be ensured that the server has .NET Framework 4.6 installed.

### SAP .NET Connector Components

If SAP support is required, download the **SAP .NET Connector 3.0 for .NET 4.0 on x86** and install it on all machines running the solution.

You can download this connector from the SAP Service Marketplace. The download is in the form of a ZIP file called **sapnco30dotnet40P\_21-20007347.zip**.

1. Extract the ZIP file into the directory of your choice.
2. Double-click the file called **NCo3021\_Net40\_x86.msi** to launch the installer.
3. Follow the instructions provided by the installer and complete the installation. You do not need to install the assemblies to the GAC. Make a note of the directory where the connector was installed. This is usually **C:\Program Files (x86)\SAP\SAP\_DotNetConnector3\_Net40\_x86\**.

## SQL Server

For creating the BFI configuration and reporting databases, the BFI Installer uses the MSOLEDBSQL provider (Microsoft OLE DB Driver for SQL Server) if it is installed on the machine.

If this provider is not available, the system uses the SQLOLEDB provider. For updates to the core Brainware Intelligent Capture (BIC) database, the system uses the provider supplied in the BIC database connection string taken from the DstHost.exe.config file, unless TLS 1.2 is activated on the machine, in which case the MSOLEDBSQL provider is used.

If you require TLS 1.2 protocol support, the MSOLEDBSQL provider is mandatory and must be installed on the machine executing the BFI Installer. The system throws an SSL security error if this provider is not available.

## Oracle Client Components

If Oracle database access is required, Oracle Client must be installed and Oracle Data Access Components (ODAC) must be installed and registered in the GAC. Specifically, you need to download the ODAC 32 bit components for the version of Oracle client installed, and then register the components into the GAC following the instructions provided by Oracle. For more information on installing the Oracle components, refer to the Oracle Product Installation Guide.

## Installation and Setup Procedure

The following section explains how the installer can be used to install Brainware for Invoices.

### Run the Installation Wizard

This section describes how to use the Brainware for Invoices Installer for new installations.

The Brainware for Invoices installer must be run as an administrator. When you run the installer, it checks for an existing installation of BFI. If it finds any existence of BFI, it runs in upgrade mode. If you want to use the installer for upgrading an existing installation, please refer to the [Upgrade Brainware for Invoices](#) section in this document.

Before using the BFI Installer for new installations, you must ensure that all Brainware components are closed.

To run the installer for new installations, complete the following steps.

1. Run the Brainware\_Invoice\_Solution.exe as administrator.

**Note:**

The BFI installer displays a warning message that you need to acknowledge before you can continue.

2. Read carefully and select the **I understand and want to continue the installation** check box to acknowledge the warning and click **Next**.
3. Read and accept the End User License Agreement.

## Define an Installation Directory

The Install Directory screen allows you to define the installation directory for the Brainware for Invoices project. This path can be local to the server or a UNC path; however, the user running the installer must have access rights to this directory.

The installer validates that the target installation directory entered by the user is empty. If any file(s) is found, a warning message is displayed, enabling the user to either:

- Change the directory entered or selected
- Remove the file(s) present in the directory
- Abort the installation

Additionally, you can define the Brainware for Invoices project file's name. During installation, the following three directories are created within the defined installation directory.

- Import - The Runtime Server Instance for Import is configured to poll this directory for incoming documents.
- Global - The project, INI, sample CSVs, and Train directory are copied to this location. The project and INI files are then renamed to the defined Project file name.
- Export - The Runtime Server Instance for Export is configured to export documents to this directory.

## Create a Database

On the Database Creation screen, you can choose to have the installer create the configuration and reporting databases automatically or manually. If you choose manual installation of the databases, the location of the required database scripts is displayed on the screen.

## Define Database Connections

On the Database Connection screens, you must define the database connection string to the Brainware for Invoices configuration database and then the Brainware for Invoices Reporting database. If you chose to have the installer create the database, you must also define the database name. BFI Installer supports TLS 1.2 so that the current standard protocols can be used to secure the environment.

To define database connections, complete the following steps.

1. Click the **Change** button within the **Database Connection** screens. A dialog appears and allows you to create the connection by selecting the database type (either Oracle or SQL Server), server



name, and authentication method. You can also test the connection from this dialog.

**Note:**

If database tables already exist, a warning message is displayed. You must manually remove the existing database tables, select a new database to continue, or abort the installation. The installer cannot be used to overwrite existing database tables.

2. Click **OK** to acknowledge the warning and then do any of the following:

- Click **Cancel** to go back to change your connection string.
- Manually remove the existing database tables.
- Select a new database.
- Abort the installation process.

The installer cannot be used to overwrite existing database tables.

**Note:**

The OLE DB provider referenced during installation is only used to determine whether the database is SQL Server or Oracle. The actual provider used is System.Data.SqlClient for SQL Server and Oracle.Data.Access for Oracle databases.

## ICAL Registration

The ICAL Registration screen allows you to define the installation directory for the Intelligent Capture Application Library (ICAL) DLLs. This path must be local to the server, and the user running the installer must have access rights to this directory.

Additionally, you must select the appropriate options if your implementation includes the following.

- Oracle database access for the configuration database, reporting database, database validations, or database export. The installer confirms whether the Oracle Client is installed prior to continuing the installation, if Oracle is selected.
- SAP integration. If SAP is selected, you must define the path to the SAP .NET Connector installation directory.

**Note:**

For more information, refer to the [ICAL Installation](#) section in this guide.

## Runtime Servers

During installation, the installer creates one RTS instance for Import and one RTS instance for Export. On the Runtime Servers screen, you can specify:

- Number of OCR, Classification, and Extraction (OCE) RTS Instances. The default number (# of RTS instances = # of cores - 1) is used for processing documents as quickly as possible, however this number can be lowered.
- Limit Batch Size - This option allows you to limit the number of documents imported into a Brainware Intelligent Capture batch. The Import RTS instance is configured to poll for sub-directories and any sub-directory with more than this number of files is split into multiple batches based on the number defined. The default setting is 10 documents.
- Clean Up Batch Time Limit (hours) - The Export instance is automatically configured by the installer to perform clean-up of old batches. You can define the amount of time which must pass after successful export of the batch before clean-up of the batch is executed and the batch is deleted. The default setting is 240 hours.
- Job Name - You can define the Database Job name where the RTS instances are performing their work. This value defaults to the Project file name defined on the Installation Directory screen.
- Auto System Update Time - The Import instance is automatically configured by the installer to perform updates to the Associative Search Engine pools every 24 hours. You can define the time when this update should occur. The default is 12:00 AM local server time.

During the installation, the Runtime Manager service is restarted.

## Complete the Installation

You can review your options prior to executing the installation and then complete your installation.

To view the installation summary and finish installation, complete the following steps.

1. Review a summary of the installation options you have selected on the **Summary** screen.
2. Use the **Previous** button to make changes to any of your selections.
3. Click **Install** once you have reviewed and are satisfied with your configuration.
4. A progress bar displays the progress of the installation. Upon completion, the **Completed the Brainware for Invoices Setup Wizard** screen is displayed.
5. Click **Finish** to exit.

## Uninstall Brainware for Invoices

You can uninstall Brainware for Invoices via **Add/Remove Programs** in Windows Control Panel only.

If Brainware for Invoices already exists, the installer displays a message, prompting the user to uninstall Brainware for Invoices via the **Add/Remove Programs** in Windows Control Panel. Once uninstallation is done, click **Finish** to exit the wizard. Click **Exit** to cancel the installation.

### Note:

Any database installed with Brainware for Invoices is not removed via the uninstall process.

## ICAL Installation

This section describes how you can install the Intelligent Capture Application Library (ICAL) DLLs, using the ICAL Installer.

### Install ICAL DLLs using the ICAL Installer

The ICAL installer installs the ICAL DLLs, which are required on all machines having Brainware for Invoices. These machines include the main Brainware server, all Verifier stations and the Web Verifier (for thin clients).

#### Prerequisite

Brainware Intelligent Capture must be installed.

The ICAL Installer is primarily used to install the BFI ICAL DLL components on secondary machines, such as Verifier workstations or the Web Verifier Server, where a full BFI installation is not required. If you have already installed ICAL DLLs on the main Brainware server using the BFI Installer, you do not need to run the ICAL Installer again.

#### Note:

Prior to installation, you must ensure that all Brainware core applications and services are closed.

To install ICAL DLLs, complete the following steps.

1. Run **ICAL Install.exe** as an Administrator.
2. Accept the end user license agreement and click **Next**.
3. Enter the path of the location where you want to install the ICAL DLLs.
4. Select the **Oracle** check box if you are using Oracle.
5. Select the **SAP** check box if you are using SAP. An additional field appears. Enter the path to the directory where you have installed the SAP .Net Connector.
6. Click **Next** and then click **Install**.
7. Click **Finish** to exit the installer. The installation process is complete.

### Upgrade ICAL DLLs using the ICAL Installer

You can use the upgrade mode in the ICAL Installer to upgrade the ICAL DLLs of an existing BFI installation. The ICAL Installer automatically launches in upgrade mode, if it detects existing ICAL DLLs.

Before upgrading the ICAL DLLs, you must have a back-up of the directory containing the existing ICAL DLLs.

The upgrade feature of the ICAL Installer performs the following tasks:

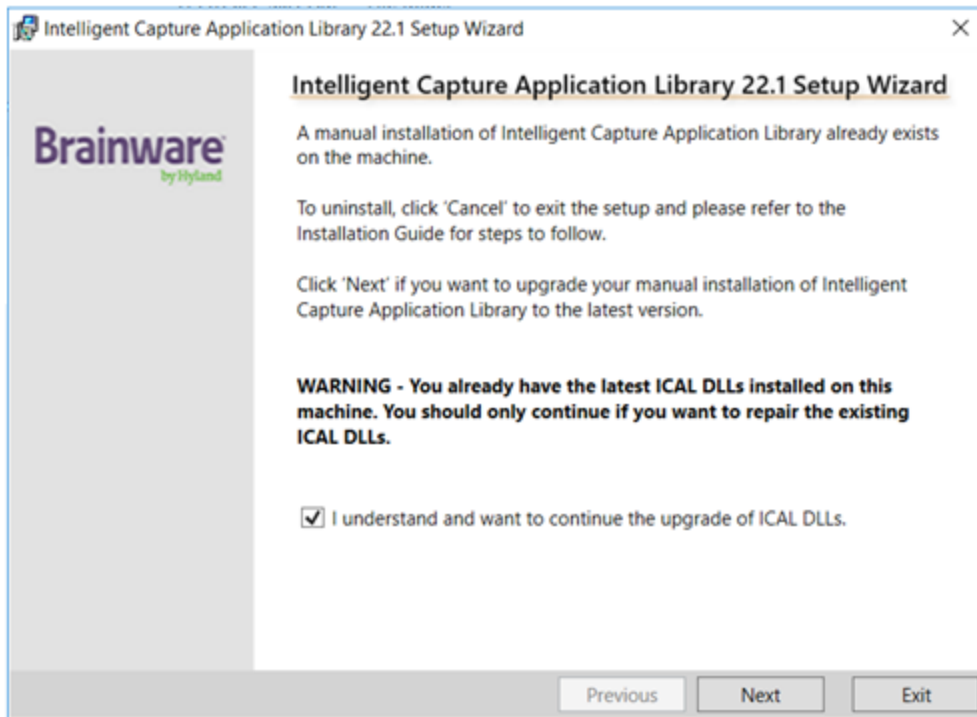
- Unregisters all previously registered ICAL DLLs on the machine.
- Copies the new ICAL DLLs to a user-specified location and replaces any previous ICAL DLLs that already exist in that location.
- Registers the new ICAL DLLs.

**Note:**

Prior to running the ICAL Installer, you must ensure that all Brainware components are closed.

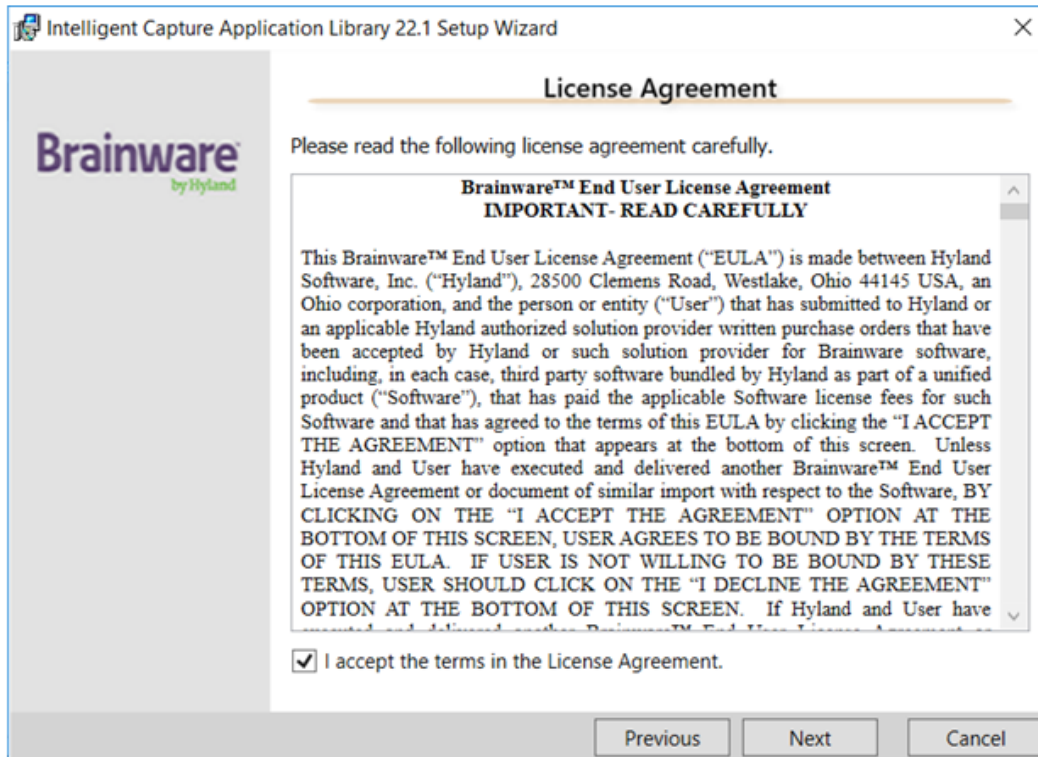
To perform an upgrade via the installer, complete the following steps:

1. Run **ICAL\_Install.exe** as an Administrator. A confirmation message is displayed.

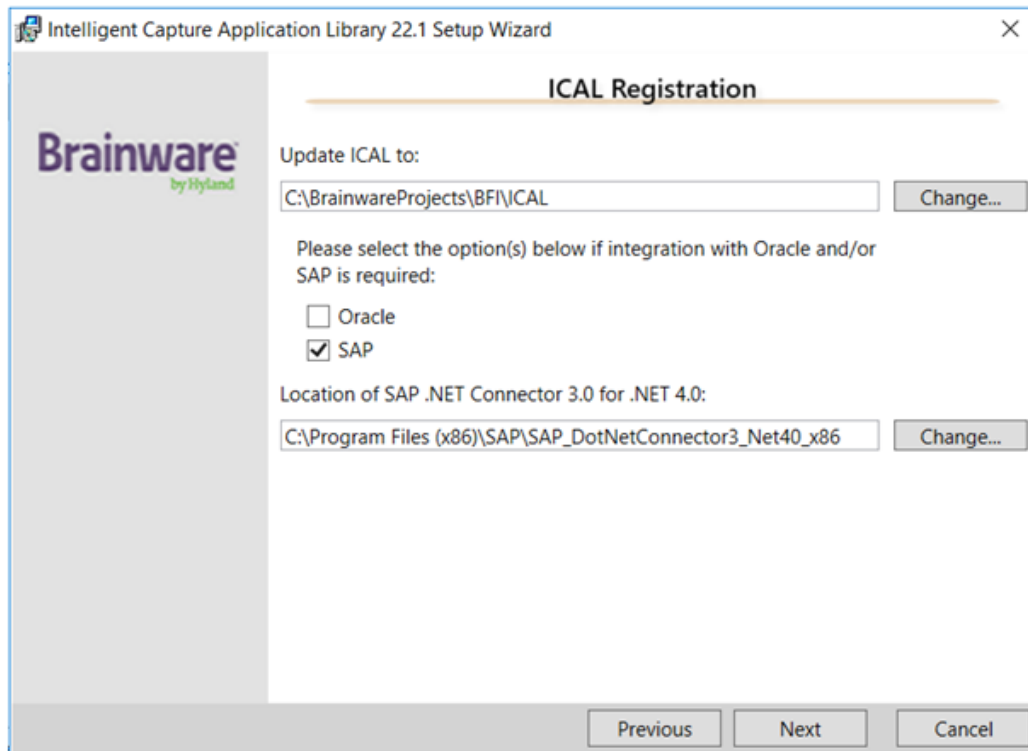


2. Read the message to understand the scope of the upgrade and select the **I understand and want to continue the upgrade of ICAL DLLs** check box to acknowledge the message and then click

**Next.** The **License Agreement** window is displayed.



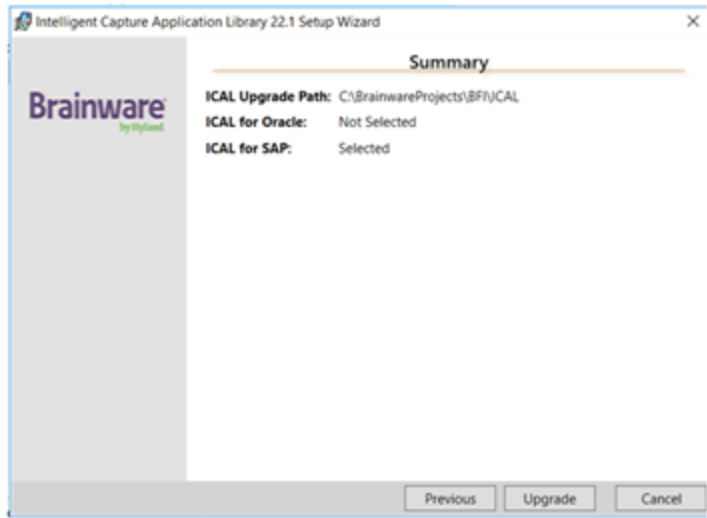
3. Read and select the **I accept the terms in the License Agreement** check box, and then click **Next**. The **ICAL Registration** window is displayed.



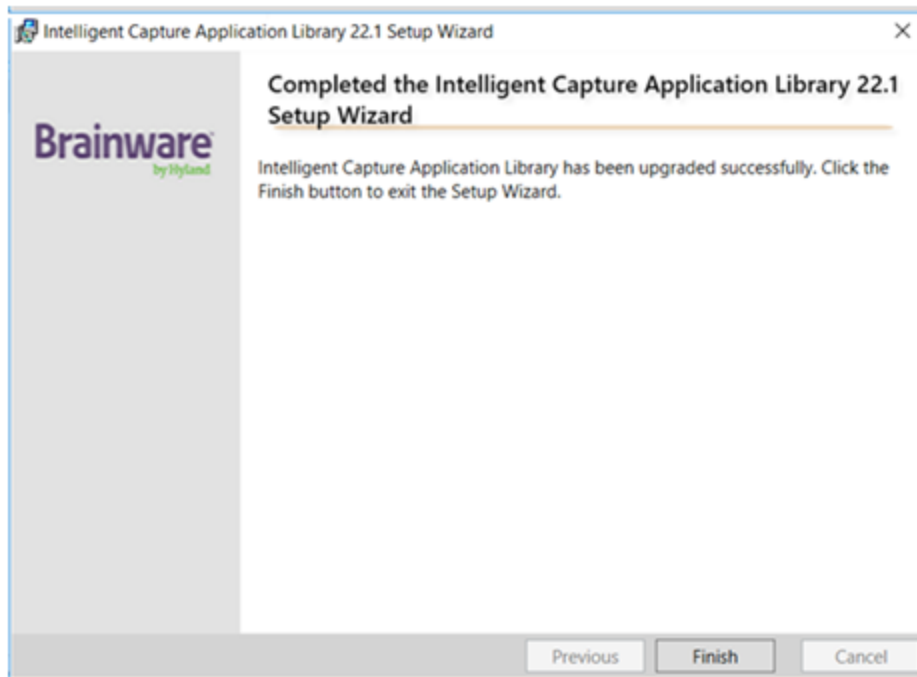
4. In the **Update ICAL to** box, enter the directory path where you want the new ICAL DLLs to be installed. The default directory is set to the existing ICAL DLL location. This directory must be local to the machine where you are running the installer, and the user running the installer must have access rights to this directory.
5. Select the **SAP** or **Oracle** check box to integrate with SAP or Oracle. You can perform either of the following steps:
  - Select the **Oracle** check box to indicate Oracle database access for the configuration database, reporting database, database validations, or database export. A confirmation message is displayed to determine if Oracle Client is installed prior to continuing the upgrade.
  - Or,
  - Select the **SAP** check box to indicate using Brainware for Invoices to connect to SAP. You must enter the path to the SAP .NET Connector installation directory.

These two options are defaulted according to your existing installation of BFI. However, you can modify these options.

- Click **Next**. The **Summary** window is displayed.



- Review the configuration summary and click **Upgrade**. The **Completed the Intelligent Capture Application Library 22.1 Setup Wizard** window is displayed.



- Click **Finish** to exit the installation process.

**Note:** If you upgrade ICAL DLLs using the installer, the updated version of the ICAL DLLs will not reflect in **Control Panel > Add/Remove Programs**.

## Rollback to the original ICAL DLLs

You can rollback the upgraded ICAL DLLs to their original version.

To restore the ICAL DLLs to their original version prior to the upgrade, complete the follow steps.

**Note:**

You must ensure that all Brainware applications are closed and services stopped prior to executing these steps.

1. Locate the directory where you have installed the BFI 22.1 ICAL DLLs. These DLLs have a product version of 3.6.0.3600 in the DLL properties.
2. Unregister the existing BFI 22.1 ICAL DLLs by executing the following steps:
  1. Open Command Prompt in Administrator mode.
  2. Navigate to the directory where you have installed the BFI 22.1 ICAL DLLs.
  3. Execute the UnRegAppDev.bat file. Keep Command Prompt open.
3. Replace the BFI 22.1 ICAL DLLs with the backup file of the original ICAL DLLs that were taken at time of installation. Do not delete the entire content of the directory before you do the replacement.
4. In Command Prompt, re-register the original ICAL DLLs by executing the RegAppDev.bat file. You can now close Command Prompt.
5. Restart the Brainware Intelligent Capture runtime service if you have rolled back the ICAL DLLs on a BFI server.
6. Restart IIS if you have rolled back the ICAL DLLs on a Web Verifier server.

## Manual Installation

This section describes how you can install Brainware for Invoices, manually.

The following steps are a high-level overview of the procedures that you need to perform to manually install and configure Brainware for Invoices.

- Create the Brainware for Invoices folder structure.
- Install Brainware for Invoices project file.
- Create the pool directory.
- Install the ICAL DLLs.
- Run the database creation script.
- Configure the INI file.
- Install the Solution Configuration Manager.
- Configure registry settings.
- Set up and add clients.
- Set up and add processing profiles.
- Activate and configure the fields for extraction.
- Configure and activate the Dynamic Verifier Form.
- Set up users.



- Set up processing instructions.
- Set up review states.
- Create a connection to Visibility.
- Configure the vendor field.

## Prepare for the installation

### Prerequisite

Before you install Brainware for Invoices, verify that you have completed the following prerequisites:

- You have installed Brainware Intelligent Capture EP1 or higher.
- You have obtained and installed a Brainware Intelligent Capture license file. This file must be located in the <InstallDir>\Components\Cairo directory.
- You have obtained the Brainware for Invoices installation files.

## Configure the local settings for decimal separators

Brainware for Invoices functions on any machine with a language setting that uses the western alphabet, though English or English (US) is recommended for the server configuration. It also runs independent of whether the machine and system localization uses a period or a comma as the decimal separator, even if the server is set to one option, yet one or more Verifier stations use different separators.

Amount fields are outputted using a period as the decimal separator in all instances. If database output is required, you need to configure the language and decimal separator preferences against that database accordingly.

For locations that use a space as the thousand separator, such as the French location, this must be changed to a comma or period, whichever is appropriate.

Dates are handled internally in a manner that is entirely independent of the system locale. The Verifier display and output formats are configurable.

## Download the installation file

To obtain the Brainware for Invoices installation files, contact the Hyland Software Technical Support group. For a list of Technical Support contact numbers, go to [hyland.com/pswtscontact](http://hyland.com/pswtscontact).

## Create the Brainware for Invoices folder structure

The first step in installing Brainware for Invoices is to create the underlying folder structure within Windows Explorer. To create the folder structure, complete the following steps.

1. Create a folder directory on the hard drive, for example C:\BrainwareProjects\BFI.
2. Within this directory, create three folders and name them as:
  1. Import
  2. Global
  3. Export

## Create the Pool directory

The pool directory stores the internal representation of the vendor master data, which is accessed by the system at runtime when determining the document vendor. To create the pool directory in the Global directory, complete the following step.

- In the Global directory, create a new directory and name it Pool.

## Install the Brainware for Invoices project file

To install the Brainware for Invoices project file, complete the following steps.

1. Navigate to the Global directory.
2. Copy the following files from the installation directory to the Global directory.
  - The SDP file.
  - The Train directory, including all content.
  - The INI file.
3. Rename the SDP and INI files to something appropriate for your business needs. The SDP and INI files must have the same name, but ensure that you retain the SDP and INI file extensions.

**Note:**

In the Brainware for Invoices help, the INI file is referred to as <project>.ini.

## Install the ICAL DLLs

The ICAL DLLs are required on all machines where Brainware for Invoices is used. This includes the main Brainware server, all Verifier stations and the Web Verifier server if the thin client is being used.

**Note:**

You must ensure that all Brainware applications are closed and services stopped prior to executing these steps.

To manually install the ICAL DLLs, complete the following steps.

1. Extract the ICAL folder from BFI Installer.zip and copy the folder to the location where you want to install the BFI 22.1 ICAL DLLs. These DLLs have a product version of 3.6.0.3600 in the DLL properties.
2. If using SAP, copy the SAP .NET Connector DLLs, sapnco.dll, and sapnco\_utils.dll (for SAP .NET Connector 3.0 for .NET 4.0 on x86) from the location where you have installed the SAP .NET connector into the BFI 22.1 ICAL directory.
3. Open Command Prompt in Administrator mode.
4. Navigate to the directory where the BFI 22.1 ICAL DLLs are copied.
5. Execute the RegAppDev.bat file and then close Command Prompt.
6. Restart the Brainware Intelligent Capture runtime service if you have installed the ICAL DLLs on a

BFI Server.

7. Restart IIS if you have installed the ICAL DLLs on a web verifier server.

## Install the SQL Server / Oracle Database

Brainware for Invoices runs in conjunction with either an SQL or Oracle database server. This database server needs to be in place prior to installation.

If the database server used is Oracle, a full Oracle 32 bit client needs to be installed using the Oracle Client Installer. You must select **Administrator** as the installation type. Following installation of the Oracle client, you need to download and install the ODAC 32 bit components for the version of Oracle client installed. For example, if you use Oracle version 19c, you can use the 19c ODAC components.

Once complete, follow the instructions provided by Oracle to install the ODP.NET40 (Oracle Data Provider for .NET 4) components. For more information on installing the Oracle client, refer to the Oracle Client Installation Guide.

Before loading scripts with the SQL Developer, configure the SQL Developer for UTF-16 encoding with the relevant character set. Otherwise, the script either does not convert all characters (Chinese characters and special characters: €, £, ¥, ¤ ) or, displays extra characters at the beginning of the script in the SQL Developer, which causes the script to fail.

Separate database server scripts are used depending on whether the database type is SQL server or Oracle.

## Run the Database Creation Script (SQL Server)

The SQL Server creation script has two parameters in the SQL file available to configure.

- DB\_Name - The name of the SQL database you want to create. This is set to BFI\_Config by default.
- Do\_Create - This controls whether you want the SQL scripts to create the database. The value should be set to 0 for no, and 1 for yes.

To configure the database creation script for SQL Server, complete the following steps.

1. Open the 'MasterSQL - SQL Server.sql' file.
2. Navigate to the SET parameters in the **Configuration** section of the file.
3. Configure the name of the database you want to create using the **@DB\_Name** parameter.
4. If you want to abort the script execution if either the database does not exist or the database already has BFI content, set the **@Do\_Create** parameter to '0'.
5. If you want the system to create the database if it does not already exist, or overwrite content in an existing database, set the **@Do\_Create** parameter to '1'.
6. Execute the script.

## Run the Database Creation Script (Oracle)

The database creation script for Oracle has one parameter in the SQL file. The overwriteTables parameter controls whether you want the SQL script to overwrite existing database tables.

To configure the database creation script for Oracle, complete the following steps.

1. Open the 'MasterSQL - Oracle.sql' file.
2. Navigate to the declaration line **overwriteTables char(1) = '1'**.
3. If you want the script to abort if the database already contains any BFI data, set the value of the **overwriteTables** to '0'.
4. If you want the script to overwrite any BFI data that already exists in the database, set the value of **overwriteTables** to '1'.
5. Execute the script.

## Configure the <project>.ini file

To configure the <project>.ini file, complete the following steps. The INI file helps to point the system to the BFI database created in the previous step.

1. Navigate to the Global directory you created.
2. Open the <project>.ini file.
3. Configure the connection string to the BFI database.
4. Enter an encrypted password, if required. For more information, refer to the Password Encryption section in the [BFI User Guide](#).
5. Save the changes and close the file.

## Solution Configuration Manager - Tasks To Do

The Brainware for Invoices solution configuration is managed via the Solution Configuration Manager (SCM). SCM is a web-based tool that provides an interface for an administrator to configure and maintain the solution configuration. You can also use it for change management control as changes are migrated between development, test and production environments.

SCM requires the installation of the corresponding BFI SCM package. You must ensure that the correct SCM package for BFI (in this case, version 22.1) is installed. You need to ensure this, regardless of whether you are installing SCM for the first time or if you are upgrading BFI. For instructions on how to install a new BFI SCM package, refer to the [SCM documentation](#).

Once the software is installed, you need to organize and configure the project. For information on how to configure your project, refer to the [Brainware for Invoices User Guide](#).

## Configure the project general settings

To configure the project general settings, complete the following steps.

1. Select the project from the drop-down.
2. In the **Settings** drop-down, select **Global Settings**.
3. From the **Global Settings** hierarchy tree, select **General Settings**. The following items are available to configure.
  - **Project Name:** This is the Brainware for Invoices solution name, which is typically set to the name of the customer. The value configured here is stored in the Visibility reporting database.

- **(Optional) Version:** This is the version number of the project. We recommend setting this to 1, but it can be left blank or changed to assign document records to different testing cycles. The value entered is recorded in the Visibility reporting database.
- **(Optional) Client Name:** Set this to the default client name that is recorded in the Visibility reporting database for each processed document. This is superseded by the client name in Client Settings and is therefore optional.
- **Read Settings From DB:** Select this to control whether the project reads configuration settings from the database. This should always be selected.
- **SQL Connection Group:** This must be set to 1. It is the reference to the SQL connection group in Database Settings that contains the connection string to the Brainware for Invoices database.
- **Batch In Database:** Select this to specify whether the Brainware Intelligent Capture document batches are to be held in the Brainware for Invoices database or held as a batch root in the file system. It is recommended to use a database as many solution features, such as setting a priority based upon the client, are not supported if the batch root is used.
- **Batch SQL Connection Group:** Set this to 2. This is the reference to the SQL connection group in Database Settings that contains the connection string to the main Brainware platform database where document batches are stored.

4. Now save the changes.

## Configure the project database connection strings

Within the BFI configuration database, a global table is provided where you can maintain the database connection strings used by the solution. These database connection strings include the connection to the core Brainware Intelligent Capture database, and can also include connections to the Visibility database and other databases used for data lookups.

The solution supports database connections to either SQL Server or an Oracle database.

The core BFI solution uses a hard-coded provider to connect to the destination database. This provider is set to **System.Data.SqlClient** for SQL Server databases and **Oracle.DataAccess** for Oracle databases. The provider in the connection string is only used by the system to determine which type of database you want to connect to. For an Oracle database, the provider must contain the string pattern **ORAOLEDB** for the connection to be successful. If this string pattern is not present, the system assumes that it is connecting to an SQL server type database.

For database connections that are invoked in Winwrap script, for example in a user exit or for the Verifier processing instructions dialog, the provider specified in the connection string is used. Hence, you must ensure that this provider is available on the machine executing the call.

To configure the project database connection strings, complete the following steps.

1. Select **Database Settings** from the **Global Settings** tree structure.  
This will present you with a screen where you can set the connection strings to databases to be

used by the invoices solution. By default, three database connection screens are added during installation.

2. For the first line, with Index ID 1, change the connection string to match the connection to the BFI solution database. This is the same connection string that you entered into the project INI file. The system knows that this string represents the BFI configuration database as the Index ID matches the ID entered against the SQL Connection Group parameter in General Settings.
3. For the second line, with Index ID 2, change the existing string to represent the connection to the Brainware core platform database. Index ID 2 corresponds to the entry against the Batch SQL Connection Group parameter in General Settings. This step is optional depending upon whether batches are stored in the Brainware core platform database.
4. For the third line, with Index ID 3, change the existing string to represent the connection to the Brainware Visibility database. This step is optional depending upon whether the solution is required to write data into the Visibility reporting tables.
5. For each connection string, an encrypted password may be used as opposed to specifying the database user password within the connection string itself. For more information, refer to the Password Encryption section in the [BFI User Guide](#).
6. Save the changes.

## Configure Asian language recognition

If your system processes documents using a supported Asian language (Simplified Chinese, Japanese, Korean or Thai), you need to complete the steps below to configure the recognition. Some of these steps involve making changes to the registry. The location of the correct registry hive where you need to make your changes depends on the version of the core product that is installed. You can find the correct hive name to use by checking the value of the CID key from the Cedar node within the software registry. On a 32-bit machine the path to the Cedar node is as follows:

```
HKEY_LOCAL_MACHINE > SOFTWARE > Cedar
```

On a 64-bit machine the path to the Cedar node is:

```
HKEY_LOCAL_MACHINE > SOFTWARE > Wow6432Node > Cedar
```

In the steps below, the hive name is represented as <HiveName>. If you used the BFI or ICAL installer, the registry settings are created automatically so you do not need to add them manually.

**Prerequisite:** It is recommended that projects involving documents with Chinese, Japanese, Korean or Thai (CJKT) characters are processed using a separate instance of the <project>.sdp file, one instance per CJKT language. This recommendation is because the Abbyy Finereader 10 engine has been noted to exhibit slower performance when CJKT languages are added to the system, as well as a lower character recognition rate for documents that do not contain CJKT characters.

1. Using Brainware Intelligent Capture Designer, open the <project>.sdp file.
2. Navigate to **Project settings**.
3. On the **Definition Mode** tab, select the **Use multi-byte encoding** check box.
4. Save the <project>.sdp file.

5. In Brainware Intelligent Capture Designer definition mode, at the project level node, open the OCR Settings.
6. To activate Japanese, on the **Recognition** tab, select **Japanese+English** and add it to the **Used** list. If a standalone entry already exists for English then this can be removed.
7. To activate simplified Chinese, on the **Recognition** tab, select **ChinesePRC+English** and add it to the **Used** list. If a standalone entry already exists for English then this can be removed.
8. To activate Korean, on the **Recognition** tab, in the **Installed** list, select **Korean** and add it to the **Used** list.
9. To activate Thai, on the **Recognition** tab, in the **Installed** list, select **Thai** and add it to the **Used** list.
10. Open Windows registry editor.
11. For a 32-bit machine, in the left pane, expand `HKEY_LOCAL_MACHINE > SOFTWARE > <HiveName>`. For a 64-bit machine, in the left pane, expand `HKEY_LOCAL_MACHINE > SOFTWARE > Wow6432Node > <HiveName>`.
12. Under the **<HiveName>** node, create a new key and name it `CJKT Support`.
13. In the new **CJKT Support** folder, create a DWORD value and name it `CJKT_MinimalSymbolSequenceLengthForWordsSplit`.
14. Assign the new registry key a value of 1.

## Registry and Web Verifier Message Settings

The following sections contain the recommended registry and thin client (Web Verifier) configuration settings. If you used the BFI or ICAL installer, the registry settings are created automatically so you do not need to add them manually.

### Configure registry settings

To configure the registry settings, complete the following steps.

1. Open the Windows registry editor.
2. For a 32-bit machine, in the left pane, expand `HKEY_LOCAL_MACHINE > SOFTWARE > <HiveName>`. For a 64-bit machine, in the left pane, expand `HKEY_LOCAL_MACHINE > SOFTWARE > Wow6432Node > <HiveName>`.
3. Under the **<HiveName>** node, create a new key and name it `Cedar`.
4. In the new `Cedar` folder, create two DWORD values and name them `AnalyzeLinesOptionally` and `ASEnginePoolAllowedCharDifference`.
5. Assign the new registry key `AnalyzeLinesOptionally` a value of 1 using a hexadecimal base.
6. Assign the new registry key `ASEnginePoolAllowedCharDifference` a value of 0 using a hexadecimal base.

## Configure Web Verifier message settings

If you deploy the thin client (Web Verifier), then you need to update the web.config file so that the dialog box information and optional messages are activated within the Verifier interface. This is not required for the thick client Verifier application. To configure the Verifier message display setting, complete the following steps.

1. Navigate to **Program Files > Hyland > Brainware Intelligent Capture Web Server** and open the web.config file.
2. In the web.config file, set the mouseClicked enabled and tabPressed enabled properties to `TRUE`
3. Save and close the file.

## Upgrade Brainware for Invoices

You can use the Brainware for Invoices Installer to upgrade an existing BFI installation if you are already using BFI 3.0 or above. If an existing installation of BFI ICAL DLLs is detected, the BFI Installer automatically launches in upgrade mode.

To upgrade your BFI installation fully, you must upgrade all three BFI components (the ICAL DLLs, database, and project file). BFI Installer supports the upgrade of the ICAL DLLs and the database components only. It does not upgrade the BFI project file. Therefore, the BFI project file must be upgraded manually.

If you are not in a position to perform the manual upgrade of the BFI project file, you should not proceed with using this upgrade. You will not be able to run a partially upgraded installation of BFI.

Before upgrading your BFI solution, you must have a back-up of all solution components such as, the BFI project folder, the BFI databases (both configuration and reporting) and the directory containing the ICAL DLLs.

The upgrade feature of the BFI Installer performs the following tasks.

- Upgrades the Brainware for Invoices configuration and reporting databases to the latest version.
- Unregisters all previously registered ICAL DLLs on the machine.
- Copies the new ICAL DLLs to a user-specified location. If any previous ICAL DLLs already exist in that location, they are replaced with the new ICAL DLLs.
- Registers the new ICAL DLLs.

### Note:

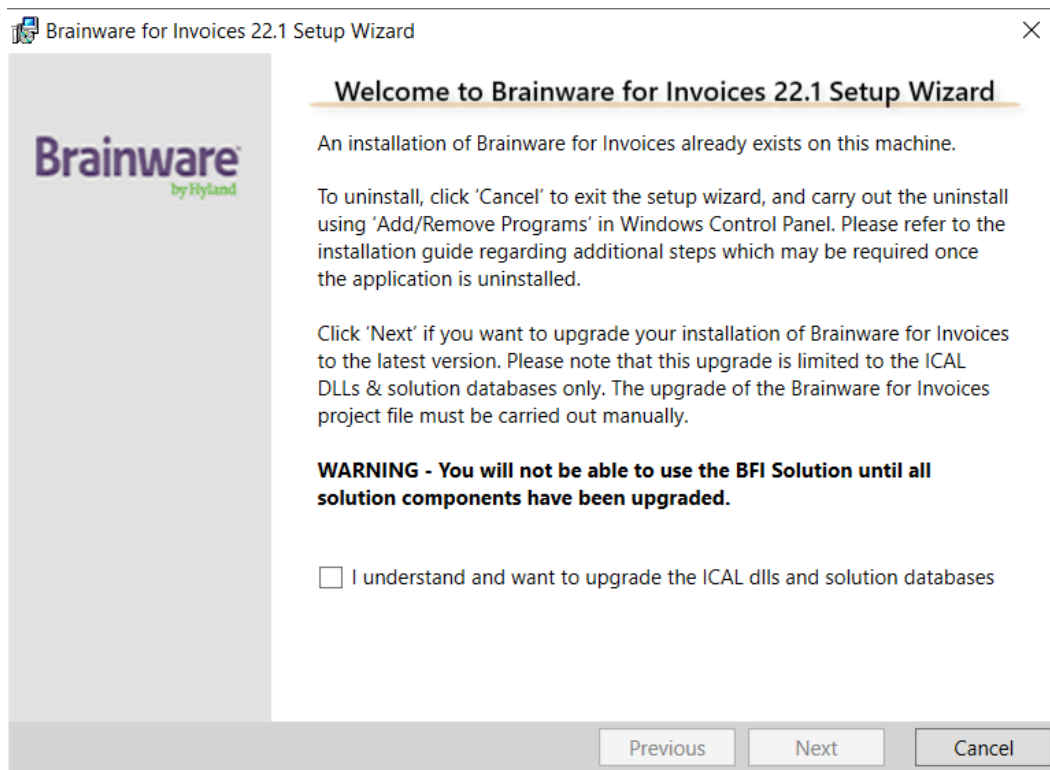
You must also ensure that all Brainware components are closed before running the installer.

## Upgrade ICAL DLLs and Database using BFI Installer

To perform the upgrade via installer, complete the following steps:

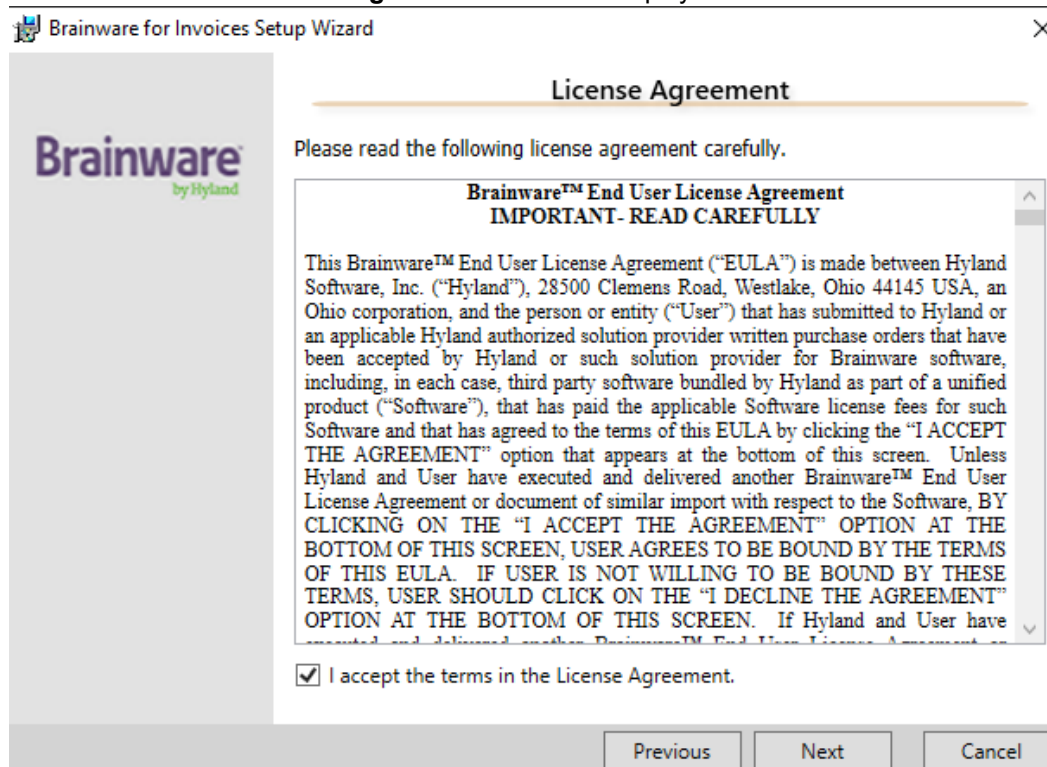
1. Run Brainware\_Invoice\_Solution.exe as an Administrator. A confirmation message is displayed.



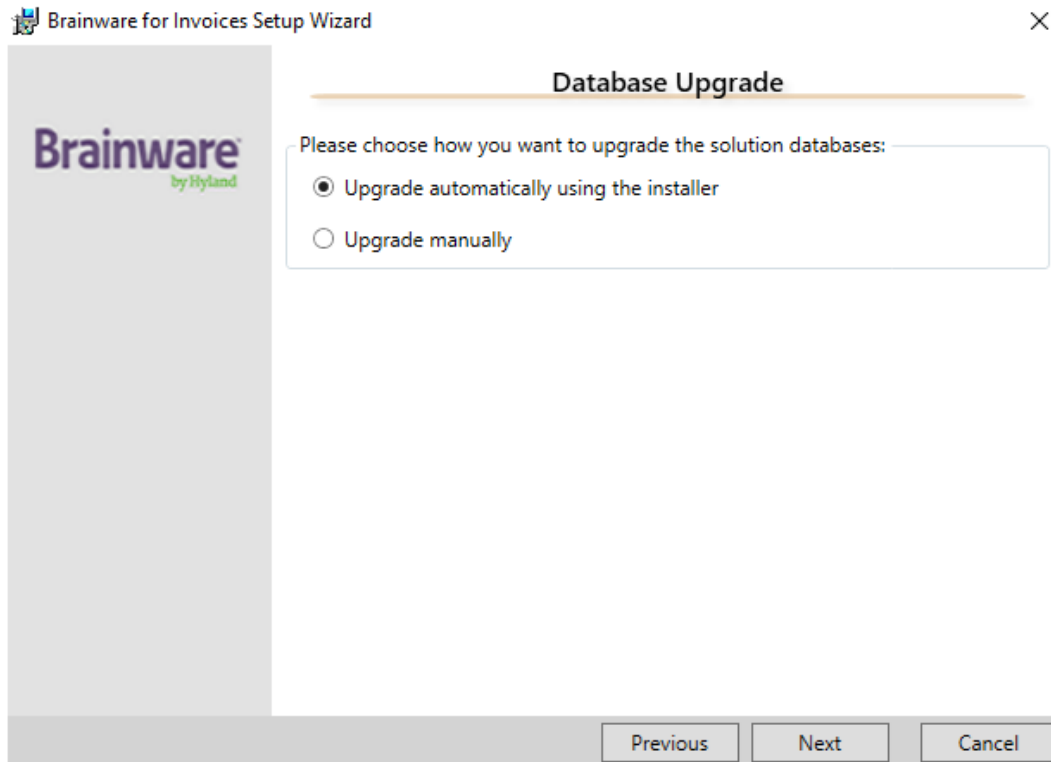


2. Read the message to understand the scope of the upgrade and select the **I understand and want to upgrade the ICAL dlls and solution databases** check box to acknowledge the message and

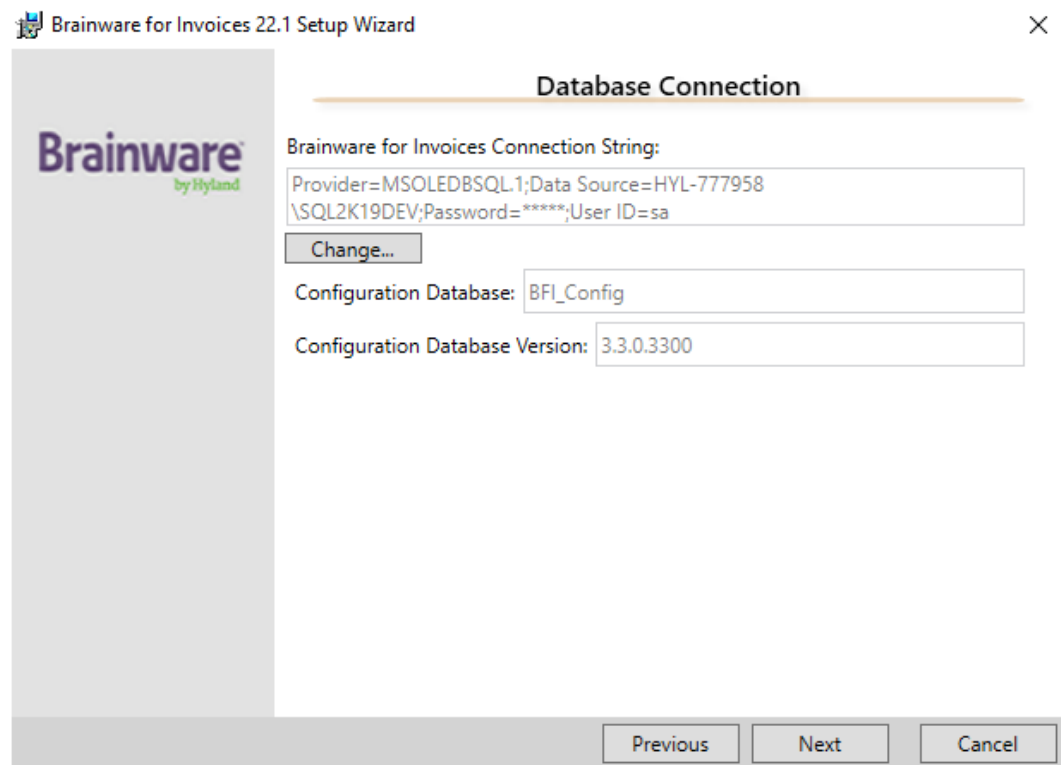
then click **Next**. The **License Agreement** window is displayed.



3. Read and select the **I accept the terms in the License Agreement** check box, and then click **Next**. The **Database Upgrade** window is displayed.



4. On the **Database Upgrade** window, do any of the following:
  - Select **Upgrade automatically using the installer** to have the installer upgrade the BFI configuration and reporting databases automatically. If you select an automatic database upgrade and click **Next**, the **Database Connection** window is displayed.



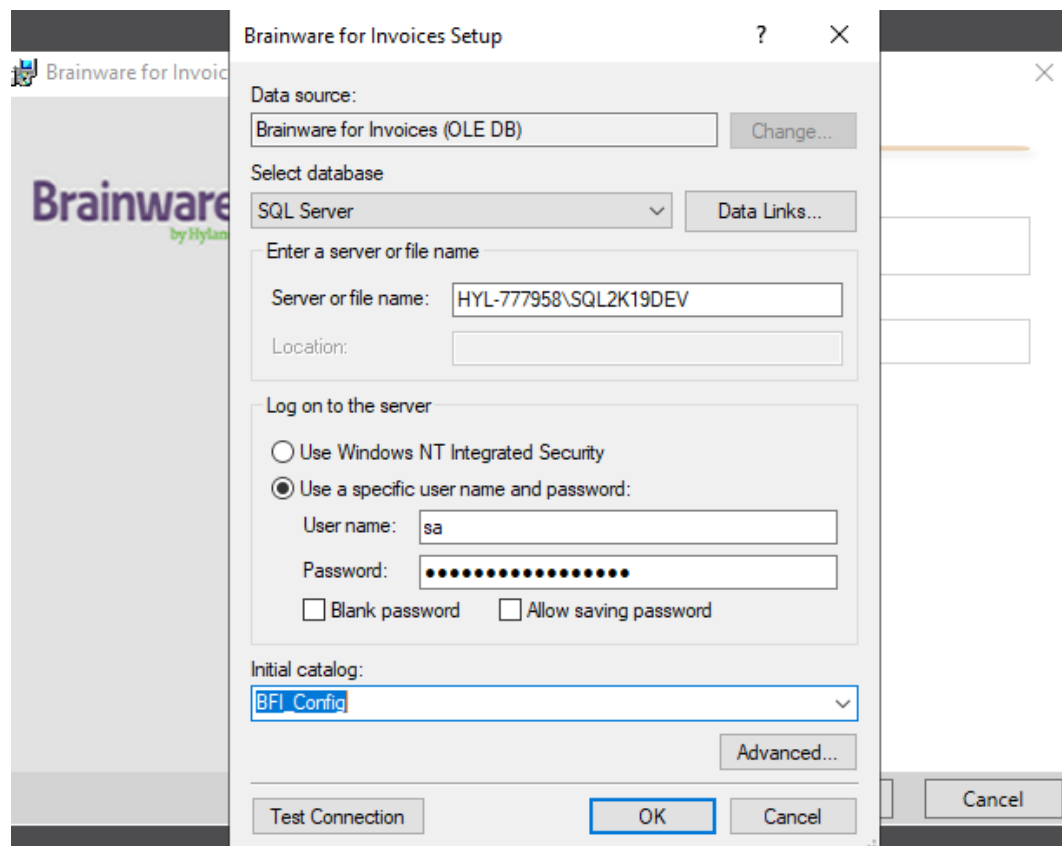
- Select **Upgrade manually** to perform a manual upgrade of the databases. If you select a manual database upgrade and click **Next**, the **ICAL Registration** window is displayed.

See step 7.

The screenshot shows the 'Database Connection' window of the 'Brainware for Invoices 22.1 Setup Wizard'. The window has a title bar with the text 'Brainware for Invoices 22.1 Setup Wizard' and a close button (X). On the left side, there is a vertical panel with the 'Brainware by Hyland' logo. The main area of the window is titled 'Database Connection' and contains the following fields and buttons:

- 'Brainware for Invoices Connection String:' label followed by a text box containing: 'Provider=MSOLEDBSQL1;Data Source=HYL-777958\SQL2K19DEV;Password=\*\*\*\*\*;User ID=sa'.
- A 'Change...' button below the connection string field.
- 'Configuration Database:' label followed by a text box containing: 'BFI\_Config'.
- 'Configuration Database Version:' label followed by a text box containing: '3.3.0.3300'.
- At the bottom right, there are three buttons: 'Previous', 'Next', and 'Cancel'.

5. On the **Database Connection** window, enter the connection string for the BFI configuration database, followed by the connection string for the BFI reporting database and then click **Next**. Default connection strings are set based upon the existing installation of Brainware For Invoices.
6. To change the default connections, complete the following steps.
  1. Click **Change**. A dialog box appears and allows you to create the connection by selecting the database type (either Oracle or SQL Server), server name and authentication method. For SQL Server, you need to select the database name from the Initial Catalog drop-down. You can also test the connection from the dialog box by clicking **Test Connection**.



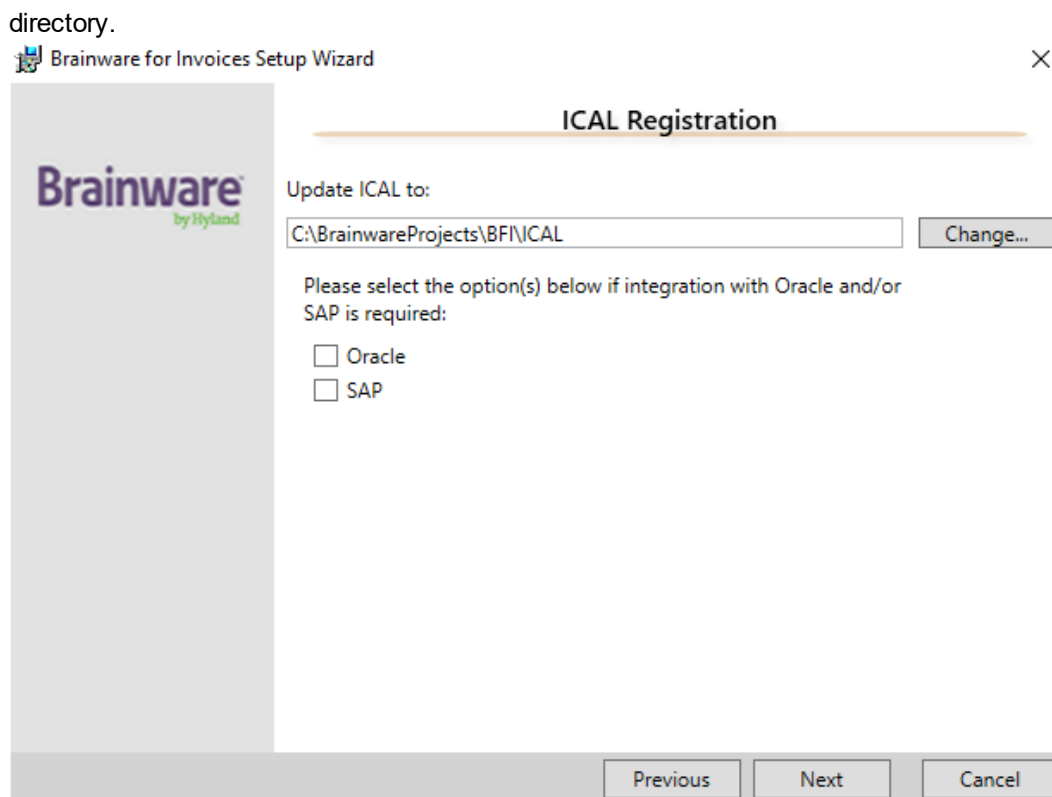
2. Click **OK** to close the dialog box and then click **Next** to move to the next window.

If the installer cannot detect the existence of valid database tables using the provided connection, a warning message is displayed. This may mean that you have selected an incorrect database to upgrade. Click **OK** to acknowledge the warning and then perform any of the following:

- Click **Change** to modify the connection string.
- Go back to the **Database Upgrade** window and select the manual database upgrade option.

**Note:** The installer is going to upgrade the DB contents, but not the DB name. For example, if you are upgrading a BFI DB named BFI\_Config\_35 to BFI 22.1, the DB name will remain BFI\_Config\_35 after the upgrade is complete.

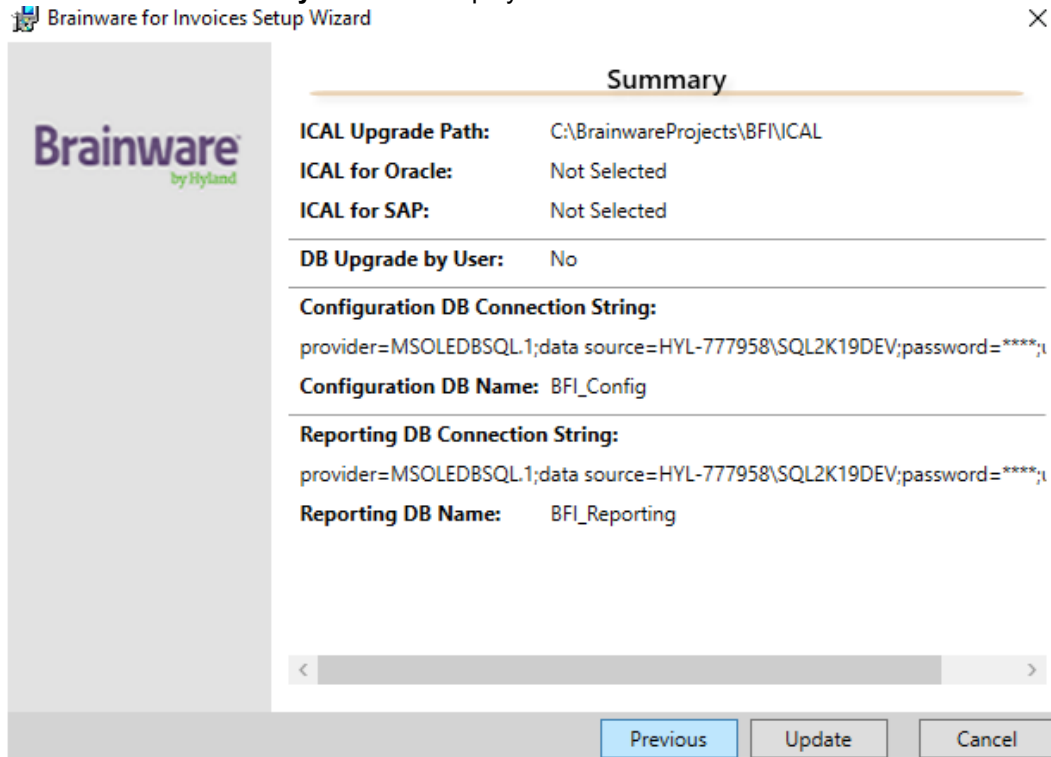
7. Specify the directory path where you want the new ICAL DLLs to be installed. The default directory will be set to the existing ICAL DLL location. This directory must be local to the machine where you are running the Installer, and the user running the installer must have access rights to this



8. Additionally, you must select the appropriate options for Oracle and SAP if required by your current installation.
- Select the **Oracle** check box if you require Oracle database access for the configuration database, reporting database, database validations, or database export. The installer then confirms whether the Oracle Client is installed prior to continuing the upgrade.
  - Select the **SAP** check box if you are using Brainware for Invoices to connect to SAP. You must then define the path to the SAP .NET Connector installation directory.

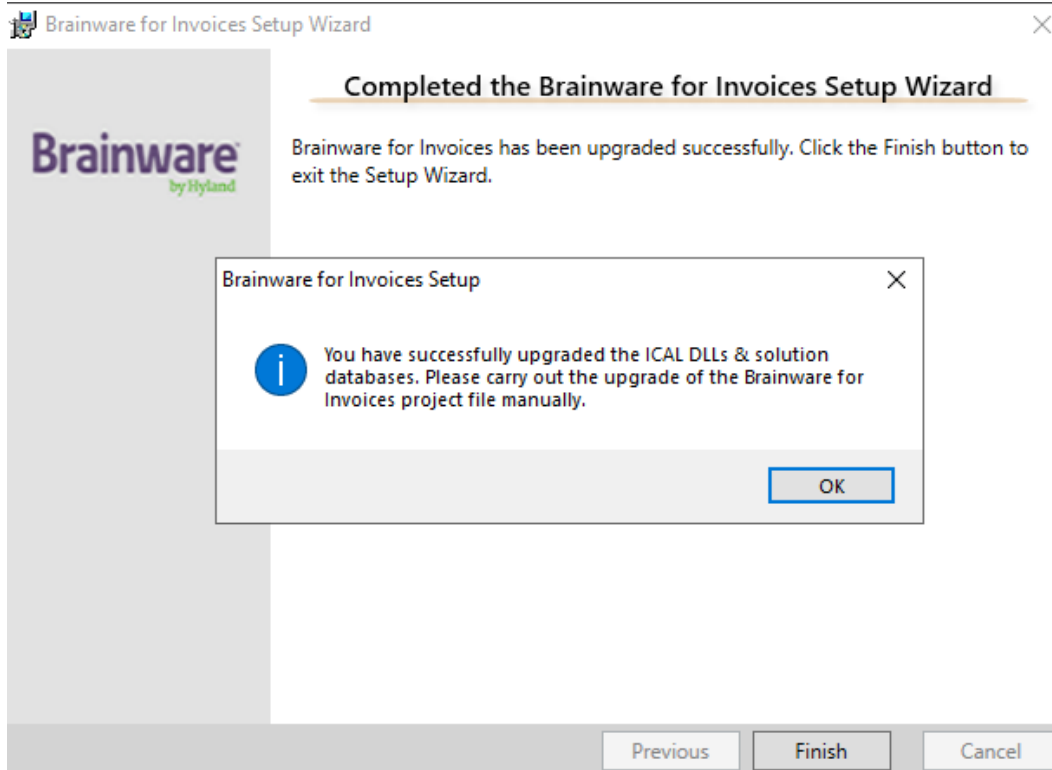
These two options are defaulted according to your existing installation of BFI, although you have the option to change it.

9. Click **Next**. The **Summary** window is displayed.





10. Review the configuration summary and click **Update**. The **Completed the Brainware for Invoices Setup Wizard** window is displayed.



11. Click **OK** to acknowledge the confirmation message and then click **Finish** to exit the set-up wizard.

**Note:** If you upgrade Brainware for Invoices using the installer, the updated version of Brainware for Invoices will not reflect in **Control Panel > Add/Remove Programs**.

## Upgrade the BFI project file

You can only upgrade the BFI project file manually. To perform the upgrade, you need to take the BFI 22.1 project file and reapply any customizations you have made.

These customizations could include, but are not limited to:

- Additional classes you have created
- Additional fields you have created
- Additional script you have added, including code in UserExits
- Additional Verifier forms or Verifier form layouts you have created

Once you have re-applied your customizations to the BFI 22.1 project file, you should save your changes and use this new project file in your active project file.

## Rollback the BFI upgrade

To rollback the BFI upgrade and go back to the original version of BFI that you were using, you need to restore the original ICAL DLLs and the BFI databases.

## Rollback to the original ICAL DLLs

You can rollback the upgraded ICAL DLLs to their original version.

To restore the ICAL DLLs to their original version prior to the upgrade, complete the follow steps.

### **Note:**

You must ensure that all Brainware applications are closed and services stopped prior to executing these steps.

1. Locate the directory where you have installed the BFI 22.1 ICAL DLLs. These DLLs have a product version of 3.6.0.3600 in the DLL properties.
2. Unregister the existing BFI 22.1 ICAL DLLs by executing the following steps:
  1. Open Command Prompt in Administrator mode.
  2. Navigate to the directory where you have installed the BFI 22.1 ICAL DLLs.
  3. Execute the UnRegAppDev.bat file. Keep Command Prompt open.
3. Replace the BFI 22.1 ICAL DLLs with the backup file of the original ICAL DLLs that were taken at time of installation. Do not delete the entire content of the directory before you do the replacement.
4. In Command Prompt, re-register the original ICAL DLLs by executing the RegAppDev.bat file. You can now close Command Prompt.
5. Restart the Brainware Intelligent Capture runtime service if you have rolled back the ICAL DLLs on a BFI server.
6. Restart IIS if you have rolled back the ICAL DLLs on a Web Verifier server.

## Restore the BFI databases

You need to restore the BFI configuration and reporting databases using the back-ups made prior to the upgrade.