

# Perceptive Intelligent Capture

## Installation and Setup Guide

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## About Perceptive Intelligent Capture

Perceptive Intelligent Capture (PIC) is a document processing system.

It combines optical character recognition (OCR), automatic data extraction from any document type, and validation of that data against known data sources for auto-processing to your ECM system and other core business applications.

Perceptive Intelligent Capture includes the following applications.

- Perceptive Intelligent Capture Designer
- Perceptive Intelligent Capture Runtime Server
- Perceptive Intelligent Capture Verifier
- Perceptive Intelligent Capture Web Verifier

For information about the document processing system, refer to [About the Intelligent Capture process topic](#).

### Prerequisites

To verify your system requirements and database meet the minimum requirements for PIC, refer to the *Perceptive Intelligent Capture Technical Specifications*. Before you install PIC, verify the following prerequisites.

- Ensure that you have local administrator rights and access to the Windows registry.
- Enable VBScript execution.

#### **Optional**

- Verify that you have installed Internet Information Services (IIS) on your server if your installation will include PIC Web Verifier.
- Create the users and groups if you use the Microsoft-recommended resource rights assignment model.

## About the Intelligent Capture process



Perceptive Intelligent Capture (PIC) analyzes text from any media type. It uses artificial neural network techniques to automatically classify structured and unstructured documents and extract meaningful information from them. Once a sample based learning method is employed PIC can handle information that is similar to the samples without programming or extensive rule setting. PIC can operate at high speed and can be implemented on parallel hardware to further enhance performance.

PIC forms a complete document processing system, as illustrated in the diagram below.

First, using capture, documents come into the process from a variety of sources.

Next, PIC recognizes all eligible data values on the page.

Then, PIC uses the extracted data to sort and classify the documents. Based on the document type, PIC extracts field-level and line item level data. It does this without templates, anchors, keywords or zones.

Finally, PIC can validate extracted data against your business application data to ensure accuracy before exporting it for workflow processing.

## About the Perceptive Intelligent Capture database

The PIC installation process allows you to create the required database on your Microsoft SQL Server or ORACLE server during the installation. You can also create the database separately after the PIC installation procedure.

PIC stores the following data in the database.

- Documents
- Batches
- Project references
- Web Verifier configuration
- Batch and document lock handling
- Users, groups, roles, and relationships
- Application level user licensing

### Verify SQL Server permissions

To use PIC with a SQL Server database, verify that your account has the following rights.

- Rights to create, modify, and delete tables.
- Rights to add, modify, and delete data.

**Note** You can use Windows authentication if the user performing the installation has the appropriate rights to the database server.

### Verify Oracle permissions

To use PIC with an ORACLE database, complete the following preparatory steps.

1. On your ORACLE database, create a new instance with a meaningful name, such as **Perceptive Intelligent Capture**.
2. Create a new user named **Lexmark** and assign a password to this user.
3. Assign the following rights to the user.
  - Insert, modify, and delete data
  - Create tables
  - Create views

**Note** You can use Windows authentication if the user performing the installation has administrative rights to the database server.



## Install Perceptive Intelligent Capture

To install PIC, complete the following procedures.

- Download the setup package
- Optional. Modify the help file location
- Install Perceptive Intelligent Capture
- Optional. Modify the application-specific HelpLink parameters
- Modify the database connection strings
- Copy the license file
- Configure Internet Information Services and Web Verifier, if the installation includes Web Verifier
- Configure the Perceptive Intelligent Capture Security
- Configure the runtime components.

### Download the setup package

To download the PIC setup package, complete the following steps.

1. Go to the Lexmark Enterprise Software website and log in to the Customer Portal.
2. Locate the PIC installer file for the 5.7.x version.
3. Save and unzip this file locally so you can access it during the installation.

### About the complete and custom installation types

When you install PIC with an attended installation, you choose a complete or a custom installation type. The complete option installs PIC Designer, Runtime Server, Verifier and Web Verifier in the `[drive:]\Program directory\Installation directory` and creates the **Perceptive Intelligent Capture** program group.

It also installs the following recognition engines.

- FineReader 10
- FineReader 11
- Kadmos 5
- QualitySoft

The custom installation type allows you to choose which applications, demo projects, and recognition engines you want to install. It also lets you select which programs you want to update automatically.

### About Help files

By default, the Intelligent Capture products provide hosted product help, which enables you to always access the most recent information directly from the Lexmark website. If your company's network security does not allow users to open a URL, you can download static help through the Customer Portal. To implement static help instead of hosted help, you must modify the configuration.

The SetupType.ini file enables you to specify the path and file that the PIC application opens when you click Help in the Help menu of a particular product. You can place the files on a webserver and specify the URL to the file that launches Help for that product or you can unzip the files on a local or a server drive, and use that file path.

## HelpLink parameters

You can redirect product help from the default web URLs to a file on your system.

The HelpLink variable is a label that applies to a particular product. The products that provide help include: Designer, RTS, Verifier, and WebVerifier.

The syntax includes the HelpLink type, which defines the product, and the path to the static file location.

```
HelpLink_designer = [path]/PICD.htm
```

```
HelpLink_rts = [path]/PICRS.htm
```

```
HelpLink_verifier = [path]/PICV.htm
```

```
HelpLink_webverifier = [path]/PICWV.htm
```

For path, supply the URL or path (absolute or relative) to the launch file for that specific help project. The following examples show a URL, a network path, and a local path.

- HelpLink\_designer = https://docs.mycompany.com/mypath/Designer/PICD.htm
- HelpLink\_designer = \\myserver\mypath\Designer\PICD.htm
- HelpLink\_designer = C:/mypath/Designer/PICD.htm

## Modify SetupType.ini for Help

To modify the SetupType.ini file, complete the following steps.

1. Download the help files from the Customer Portal on the Lexmark website.
2. Open the **SetupType.ini** file with a text editor.
3. In the **SetupType.ini** file, in the **[Help]** section, specify the path for each HelpLink. The following lines show the URLs to the hosted documentation.

```
HelpLink_designer = https://docs.lexmark.com/PIC/en_US/5.7/Designer/PICD.htm  
HelpLink_rts = https://docs.lexmark.com/PIC/en_US/5.7/Runtime_Server/PICRS.htm  
HelpLink_verifier = https://docs.lexmark.com/PIC/en_US/5.7/Verifier/PICV.htm  
HelpLink_webverifier = https://docs.lexmark.com/PIC/en_US/5.7/Web_Verifier/PICWV.htm
```

4. Save and close the file.

## Install PIC attended

To install PIC, complete the following steps.

1. Run **setup.exe**.  
**Note** The installation process is available in English and German. The language used depends on the regional settings of your system. The default language is English.
2. If .NET Framework 4.5.2 is not installed, complete one of the following substeps.
  - To cancel the setup and install .NET Framework 4.5.2 manually, select **Abort setup** and then click **Next**. After installing .NET Framework 4.5.2, rerun **setup.exe** and proceed with the following steps.
  - To allow setup.exe to install .NET Framework 4.5.2, select **Let the setup install .NET Framework Version 4.5.2 (Recommended)** and then click **Next**.
3. In the **Setup Lexmark Perceptive Intelligent Capture** page, click **Next**.
4. In the **License Agreement** page, read and accept the End-User License Agreement (EULA), and then click **Next**.
5. In the **Installation Type** page, select **Complete** or **Custom** and click **Next**.
6. If you selected **Custom**, complete the following substeps. If you selected **Complete**, continue to the next step.
  1. In the **Installation Directory** page, accept the default or change the directory, and then click **Next**.
  2. In the **Feature Selection** page, clear any unrequired applications, demo projects, and recognition engines and then click **Next**.
  3. Optional. In the **Configuration of Auto Update Feature** page, select the programs you want to update automatically.
  4. The following option is currently not in use.  
Optional. In the **Shared network updates directory** field, type or browse to a path.  
**Note** The path must exist. The installation process uses this path to create and configure the batch files required for the automated update feature.
  5. Click **Next**.
7. In the **Program Folder** page, accept the default program directory or select one of the existing directories and then click **Next**.
8. In the **Selected Install Options** page, verify your selections and then click **Next**.
9. In the **WIBU-KEY Runtime-Kit** dialog box, click **Yes**.
10. In the **Database Setup Options** page, select one of the following options and then click **Next**.
  - SQL Server
  - Oracle
  - Do not install database**Note** You can create the database separately after the PIC installation process.
11. For SQL Server or ORACLE, complete the following substeps.
  1. In the **Login Credentials** page, complete one of the following steps and then click **Next**.

- Select **Windows Authentication**.
  - Type the user ID and password.
2. In the **Database Server Information** page, in the **Database Server Name** field, type the database server name and then click **Next**.
12. In the **Performed Tasks** page, click **Next**.
  13. Optional. In the **Icons on Desktop** page, select **Create desktop shortcuts** for applications and click **Finish**.

## Install PIC unattended

### Perform a silent installation

To install PIC on several machines concurrently, such as PIC Verifier workstations, use the silent installation mode.

To install PIC silently, complete the following steps.

1. From the **[drive:]\[setup directory]** directory, open the **Silent Install.ini** file with a text editor.
2. In the **Silent Install.ini** file, change the parameters according to your needs.  
**Note** You can delete single parameters or complete sections, but you cannot move a parameter outside of its appropriate section.
3. Save and close the file.
4. From the **[drive:]\[setup directory]** directory, execute the **setupsilent.bat** file.

### Silent Install.ini parameters

The following table describes the parameters available in the Silent Install.ini file.

#### [General]

This section contains general installation parameters.

#### **Path**

The installation path, without a trailing backslash.

Example

Path = C:\Program Files\YourCompanyName

#### **EULA**

End-user license agreement

0: Accepted

1: Default value - Not accepted, the silent installation cancels

#### **MoveComponentsIfRequired**

Indicates whether to use the existing component directory or to move any previous components to the new PIC directory prior to installation.

0: Use existing component directory

1: Default value – Move components to the new directory

**CreateDeskTopIcons**

0: Default value – do not create desktop shortcuts

1: Create desktop shortcuts

**InstallWibuKey**

0: Skip WIBU-key driver installation

1: Default value - install WIBU-key drivers

**StopIfDotNetIsNotFound**

Web Verifier and the database connections require .NET Framework.

0: If the required .NET Framework is not present, the installation proceeds and automatically installs the required version.

1: Default value –Cancel the installation if the required .NET Framework version is not present.

[Applications]

Defines which applications to install.

To install only the extraction components, set all parameters in this section to 0.

**Designer**

0: Don't install PIC Designer

1: Default value – Install PIC Designer

**Verifier**

0: Don't install PIC Verifier

1: Default value – Install PIC Verifier

**Runtime Service**

0: Don't install PIC Runtime Server

1: Default value – Install the PIC Runtime Server

**Web Verifier**

0: Don't install PIC Web Verifier

1 Default value – Install PIC Web Verifier

[OCR Engines]

Defines which OCR engines to install.

**FineReader10**

0: Don't install the FineReader10 engine

1: Default value – Install FineReader10 engine

**FineReader11**

0: Don't install the FineReader11 engine

1: Default value – Install FineReader11 engine

**Kadmos5**

0: Don't install the Kadmos 5 engine

1: Default value – Install Kadmos 5 engine

**Cleqs**

0: Don't install the Cleqs engine

1: Default value – Install Cleqs engine

**QualitysoftBarcode**

0: Don't install the QualitySoft engine

1: Default value – Install QualitySoft engine

[Additional]

Additional files to install.

**Demo Files**

0: Don't install the demo project files

1: Default value – Install the demo project files

[AutoServiceUpdate]

Defines whether the automatic service update feature installs.

**ForDesigner**

0: Default value – Don't define an automatic service update for PIC Designer

1: Define an automatic service update for PIC Designer

**ForVerifier**

0: Default value – Don't define an automatic service update for PIC Verifier

1: Define an automatic service update for PIC Verifier

**NetworkUpdateFolder**

The path where the automatic service update will look for updates.

The default value is an empty string.

[Database Configuration]

Settings for an existing database server.

**DBServerType**

1: Configure the SQL Server database

2: Configure the Oracle database

3: Default value – Don't configure a database

**UseDBConfIniFile**

Path and filename of a text file that contains the database connection string.

The default value is an empty string. If you do not define a file, the installer uses the credentials in the [DB Credentials] section. If the [DB Credentials] section does not exist, the `DBServerType` parameter defaults to 3.

## [DB Credentials]

You can use this section instead of defining a file in the parameter `UseDBConfIniFile`.

**Note** The database configuration skips, if the parameter `UseDBConfIniFile` contains an empty string.

The following options apply for SQL Server connections only.

### **SQLServerWindowsAuthent**

0: Default value – Do not use Windows authentication for database access

1: Use Windows authentication for database access

### **SQLServerAdminUser**

The DBA account name. The default value is an empty string.

### **SQLServerAdminPassword**

The DBA account password. The default value is an empty string

The following options apply for both SQL Server and ORACLE connections.

### **DBUserWindowsAuthent**

0: Default value – Do not use Windows authentication for database user

1: Use Windows authentication for the database user

### **DBUserName**

The database user account name. The default value is an empty string.

### **DBUserPassword**

The database user account password. The default value is an empty string.

### **DatabaseServerPath**

The database name in the format `<MachineName>\<InstanceName>`. The default value is an empty string.

## Install an additional Runtime Server instance

To install an additional Runtime Server instance and connect it to an existing database, complete the following steps.

1. Install PIC without installing the database.
2. Copy the following configuration files from an existing installation to the new installation directory.
  - **[Installation path]Perceptive Intelligent Capture Web Server\Web.config**
  - **[Installation path]Perceptive Intelligent Capture\bin\DstDsr.exe.config**
  - **[Installation path]Perceptive Intelligent Capture\bin\DstHost.exe.config**
  - **[Installation path]Perceptive Intelligent Capture\bin\DstSlm.exe.config**
  - **[Installation path]Perceptive Intelligent Capture\bin\DstVer.exe.config**
  - **[Installation path]Perceptive Intelligent Capture\bin\DstWkBrw.exe.config**

## Perceptive Intelligent Capture subdirectories

Setup creates the following subdirectories in the installation directory.

- **\Components\Bwe** contains the PIC Toolkit.
- **\Components\Cairo** contains the following components.
  - The license file
  - The base components for imaging and recognition
- **\Components\Cedar** contains the following components.
  - The base components for document analysis
- **\Components\Tools** contains the following components.
  - The installation log file
  - Several tools and utilities for PIC, such as the **SCBLibVersion.exe** component version information tool
- **\Perceptive Intelligent Capture\bin** contains the PIC executables and the settings files.
- **\Perceptive Intelligent Capture\bin\Log** contains the log files.
- **\Perceptive Intelligent Capture Web Server** contains the PIC web components, the Web.config file, and other web libraries used by the Web Verifier.
- **\Projects** contains demo projects.
- **\License** contains the shared runtime license file.



## Modify the application-specific HelpLink parameters

You can modify the application-specific HelpLink parameters if required. Complete the following steps.

1. From **[Installation path]\Perceptive Intelligent Capture\bin**, open the required configuration file, such as **DstDsr.exe.config** for PIC Designer, in a text editor.
2. Search for the following line  
`<add key="HelpLink".`
3. Modify the `value` parameter according to your needs.

## Install the database manually

Optional. If you did not install the database with the installation wizard, you can execute the scripts manually. Complete one of the following tasks.

### Create a SQL Server database

To create a SQL Server database, complete the following steps.

1. Start the SQL Server Management Studio.
2. Log in using an account with administrator rights.
3. Create a new database with a meaningful name, such as **Perceptive Intelligent Capture**.
4. From the **[drive:]\setup directory\FirstPart\Database\CreationScripts\SQL Server** directory, execute the **BrwCreateDatabase.sql** script.
5. From the **[drive:]\setup directory\FirstPart\Database\UpdateScripts\SQL Server** directory, open the **BRW\_Upgrade\_Database.sql** script.
6. In the **BRW\_Upgrade\_Database.sql** script, search for the term **TargetDatabaseName** and change the term to the name of your PIC database.
7. Execute the **BRW\_Upgrade\_Database.sql** script.

### Create an Oracle database

To create an ORACLE database, complete the following steps.

1. As an administrator, create a new tablespace and user for the BIC database.  
**Note:** The user name must be all-uppercase.
2. Start **SQL\*Plus** or the **ORACLE Management Console**.
3. From the **[drive:]\setup directory\FirstPart\Database\CreationScripts\Oracle** directory, execute the **BrwCreateDatabase.sql** script.
4. From the **[drive:]\setup directory\FirstPart\Database\UpdateScripts\Oracle** directory, open the **BRW\_Upgrade\_Database.sql** script.
5. In the **BRW\_Upgrade\_Database.sql** script, search for the term **TargetDBSchemaName** and change it to the name of the user associated to the PIC database.
6. Execute the **BRW\_Upgrade\_Database.sql** script.

## Configure the database

After you have installed the database, through the installer or by manually running the scripts, you must configure it. Complete the following tasks.

### Modify the database connection strings

To modify the database connection strings for Web Verifier, refer to the “Modify the database connection strings for Web Verifier” topic.

To modify the database connection strings for all PIC components, except Web Verifier, complete the following steps.

1. From the *[Installation path]\Perceptive Intelligent Capture\bin* directory, open **DstDsr.exe.config** in a text editor.
2. Search for **<connectionStrings>**.
3. For a SQL Server database, modify the following values.
  - Set **Data Source** to the data source.
  - Set **Initial Catalog** to the SQL Server database catalog.
  - Set **User ID** to the SQL Server user ID.
  - Set **Password** to the SQL Server password.
4. For an ORACLE database, modify the following values.
  - Set **Data Source** to the data source.
  - Set **User ID** to the service account user ID.
  - Set **Password** to the service account password.
5. Save and close the file.
6. Repeat the previous steps for the following configuration files.
  - **Brainware.System.Project.exe.config**
  - **DstSlm.exe.config**
  - **DstVer.exe.config**
  - **DstHost.exe.config**
  - **DstWkBrw.exe.config**

## Database connection string example for SQL Server

```
<connectionStrings>
<add name="Entities"
connectionString="metadata=res://*/Entity.Entities.csdl|res://*/Entity.Entities.ssdl|res://*/Entity.Entities.msl; provider=System.Data.SqlClient;provider connection string=&quot;Data Source=<DataSource>;Initial Catalog=<SQLServerDatabaseCatalog>;Integrated Security=false;UserID=<UserId>;Password=<UserPassword>;MultipleActiveResultSets=True&quot;;"
providerName="System.Data.EntityClient" />
</connectionStrings>
```

**Note** To copy the connections string example as a single line, open this document in Acrobat Reader and copy and paste the string from there.

## Database connection string example for ORACLE

```
<connectionStrings>
<add name="Entities"
connectionString="metadata=res://*/Entity.ORAEntities.csdl|res://*/Entity.ORAEntities.ssdl|res://*/Entity.ORAEntities.msl; provider=EFOracleProvider; Provider Connection String='Data Source=<OracleServerName\InstanceName>;UserID=<UserID>;Password=<UserPassword>' " providerName="System.Data.EntityClient" />
</connectionStrings>
```

**Note** To copy the connections string example as a single line, open this document in Acrobat Reader and copy and paste the string from there.

## Encrypt the password for a database connection string

Password encryption in configuration files is optional, but highly recommended.

To provide an encrypted password for the database connection in a configuration file, complete the following steps.

- To create an encrypted password, complete the following substeps.
  - In the **[Installation path]\Perceptive Intelligent Capture\bin** directory, create a new batch file and give it a meaningful name, such as **CreateEncryptedPassword.bat**.
  - Copy the following line to the batch file, replacing **MyPassword** with the password you want to encrypt.

```
DstCrypt.exe /text MyPassword > EncryptedPassword.txt
```

**Note** The maximum password length is 30 characters.
  - Save and close the file.
  - In the **Windows Explorer**, double-click the batch file.
  - From **[Installation path]\Perceptive Intelligent Capture\bin**, open **EncryptedPassword.txt** in a text editor and copy the encrypted password to the clipboard.
- From **[Installation path]\Perceptive Intelligent Capture\bin**, open the required configuration file, such as **DstDsr.exe.config** for PIC Designer, in a text editor.
- Search for **<connectionStrings>**.
- In the **<add name>** element, set **password** as an asterisk. For example, **<add name="Entities" Password=\*>**.
- In the **<appSettings>** element, add a line with your encrypted password according to the following example.

```
<appSettings>
  <add key="EncrPwd" value="The_encrypted_Password"/>
</appSettings>
```

6. Save and close the **DstDsr.exe.config** file.
7. Optional. Repeat the previous steps for one or all of the following configuration files.
  - For **Runtime Server**  
*[Installation path]*Perceptive Intelligent Capture\bin\DstHost.exe.config
  - For **Learnset Manager tool**  
*[Installation path]*Perceptive Intelligent Capture\bin\DstSlm.exe.config
  - For **Verifier**  
*[Installation path]*Perceptive Intelligent Capture\bin\DstVer.exe.config
  - For **Workdoc Browser**  
*[Installation path]*Perceptive Intelligent Capture\bin\DstWkBrw.exe.config
  - For **Supervised Learning in Web Verifier**  
*[Installation path]*Perceptive Intelligent Capture\bin\Brainware.System.Project.exe.config
  - For **Web Verifier**  
*[Installation path]*Perceptive Intelligent Capture Web Server\web.config

## Modify the .NET configuration for ORACLE

If you use PIC with an ORACLE database, complete the following steps.

1. From **<drive>:\WINDOWS\Microsoft.NET\Framework\v4.0.30319\CONFIG**, open **machine.config** in a text editor.
2. Search for the **<system.data>** element.
3. Under the **<DbProviderFactories>** element, verify or add the following element.  

```
<add name="EF Oracle Data Provider" invariant="EFOracleProvider" description="EF
Provider for Oracle testing" type="EFOracleProvider.EFOracleProviderFactory,
EFOracleProvider, Version=1.0.0.0, Culture=neutral,
PublicKeyToken=def642f226e0e59b"/>
```

**Note** To copy this example as a single line, open this document in Acrobat Reader and copy and paste the string from there.
4. Save and close the file.

## Copy the license file

Refer to the Perceptive Intelligent Capture Product Licensing Guide for licensing information.

## The PIC Components Version Info tool

The PIC Components Version Info tool provides information about the installed DLLs and the components that require an entry in the license file to be available.

### Components General Info view

This view lists the installed primary DLLs and provides the following information.

- **Name.** Name of the installed DLL.
- **Description.** Description of the DLL.
- **Build.** Build number of the DLL.
- **Product version.** Version of the DLL.
- **Date.** Compilation date and time.
- **Build Date Time.** Date and time the build was created.
- **Install Directory.** Path to the component location.

### Components Licensing Info view

This view lists licensable components and provides the following information.

- **Component Name.** Name of the component.
- **Component Type.** Type of the component.
- **Status.** License status of the component.
- **License File Path.** License file location.
- **License Files.** License file name.
- **Expires.** License expiration date for component.
- **Version.** Version number.
- **Customer.** Customer name.
- **Customer ID.** Customer ID.
- **Serial.** Serial number.

## Review the installed components

To review the installed components, complete the following steps.

1. Start the **Components Version Info** tool.
2. To display the list of installed components, click **View > Components General Info**.
3. Optional. To copy the displayed information to the clipboard, click **File > Copy to Clipboard**.
4. Optional. To save the displayed information to a file, click **File > Save to File**.

## Review the component license information

To review the component license information, complete the following steps.

1. Start the **Components Version Info** tool.
2. To display the license information, click **View > Components Licensing Info**.

## Manage the PIC components

To manage the PIC components, complete any of the following tasks as necessary.

### Manually register components

The installation process automatically registers the Cro\*.dll, Cdr\*.dll, and Bwe\*.dll components. For troubleshooting purposes, you can manually register these components. To register the components, complete the following steps.

1. From the **[Installation path]\Perceptive Intelligent Capture\Components\Cairo** directory, execute the **RegCro.bat** file.
2. From the **[Installation path]\Perceptive Intelligent Capture\Components\Cedar** directory, execute the **RegCdr.bat** file.
3. From the **[Installation path]\Perceptive Intelligent Capture\Components\Bwe** directory, execute the **RegBwe.bat** file.

### Add or remove PIC components

The PIC installation process enables you to add or remove the following components.

- Perceptive Intelligent Capture Runtime Server
- Perceptive Intelligent Capture Designer
- Perceptive Intelligent Capture Verifier
- Perceptive Intelligent Capture Web Verifier

To modify an existing Perceptive Intelligent Capture installation, complete the following steps.

1. From **Windows Programs and Features**, select **Perceptive Intelligent Capture** and then click **Change**.
2. In the **License Agreement** page, read and accept the End-User License Agreement (EULA), and then click **Next**.
3. In the **Setup** page, select **Modify** and then click **Next**.
4. In the **Feature Selection** page, select or clear the desired components and then click **Next**.
5. In the **Icons on Desktop** page, complete the following substeps.
  1. Optional. Select **Create desktop shortcuts for applications**.
  2. Click **Finish**.

## Configuration for Web Verifier

Your Internet Information Server (IIS) executes Web Verifier.

To configure IIS and Web Verifier, complete the following tasks.

- Configure IIS for Web Verifier
- Configure Web Verifier
- Configure server security for Web Verifier
- Configure Internet Explorer for Web Verifier
- Optional. Enable the single sign-on authentication
- Optional. Configure Windows authentication
- Optional. Configure SSL

### Configure IIS for Web Verifier

Role services configuration for Web Verifier in IIS 7.5 and above

Web Verifier requires the following role services in IIS.

- **Common HTTP Features**
  - Static Content
  - Default Document
  - Directory Browsing
  - HTTP Errors
- **Application Development**
  - ASP.NET 4.5
  - .NET Extensibility
  - ISAPI Extensions
  - ISAPI Filters
- **Health and Diagnostics**
  - HTTP Logging
  - Request Monitor

Create an application pool for PIC in IIS 7.5 and above

To configure PIC in IIS, complete the following steps.

1. Start **Internet Information Services (IIS) Manager**.
2. In the **Internet Information Services (IIS) Manager** window, in the left pane, right-click the local computer and then click **Switch to Content View**.
3. In the middle pane, right-click **Application Pools** and then click **Add Application Pool**.

4. In the **Add Application Pool** dialog box, complete the following substeps.
  1. In the **Name** field, type **WebVerifierPool**.
  2. From the **.NET CLR version** list, select **.NET CLR v4.0.30319** and then click **OK**.
5. In the left pane, click **Application Pools**.
6. In the middle pane, right-click **WebVerifierPool** and then click **Advanced Settings**.
7. In the **Advanced Settings** dialog box, provide the following settings and then click **OK**.
  - Enable 32-Bit Applications = True
  - Managed Pipeline Mode = Integrated
  - Identity = NetworkService
  - Load User Profile = True
8. Right-click **WebVerifier** and then click **Manage Application > Advanced Settings**.
9. In the **Advanced Settings** dialog box, provide the following setting and then click **OK**.
  - Application Pool = WebVerifierPool

## Configure PIC in IIS 7.5 and above

1. Start **Internet Information Services (IIS) Manager**.
2. In the **Internet Information Services (IIS) Manager** window, in the left pane, expand **Sites > Default Web Site**.
3. Right-click **Default Web Site** and then click **Add Application**.
4. In the **Add Application** dialog box, complete the following substeps.
  1. In the **Alias** field, type **WebVerifier**.
  2. In the **Application pool** field, select the pool that was configured before, such as **WebVerifierPool**.
  3. In the **Physical path** field, type or browse to the **[Installation path]Perceptive Intelligent Capture Web Server** directory and then click **OK**.
5. In the **Internet Information Services (IIS) Manager** window, in the left pane, select **WebVerifier**.
6. In the middle pane, under **IIS**, double-click **Default Document**.
7. In the right pane, click **Add**.
8. In the **Add Default Document** dialog box, in the **Name** field, type **Login.aspx** and then click **OK**.



## Configure a white label directory in IIS

If you are using a PIC version that contains a white label (WL) directory inside the Components\Cedar directory, create a WL virtual directory in IIS. Complete the following steps.

1. In the **Internet Information Services (IIS) Manager** window, in the left pane, open the tree view until **Web Verifier** displays.
2. Right-click **Web Verifier**, then click **Add Virtual Directory**.
3. In the **Add Virtual Directory** dialog box, complete the following substeps.
  1. In the **Alias** field, type **WL** as the name for the virtual directory.
  2. In the **Physical path** field, type or browse to the **[Installation path]\Perceptive Intelligent Capture\Components\Cedar\WL** directory and then click **OK**.

## Configure Web Verifier

### Set the path to the license file

To set the path to the license file, complete the following steps.

1. From the **[Installation path]\Perceptive Intelligent Capture Web Server** directory, open **Web.config** in a text editor.
2. Search for the following line.
 

```
<project licensePath="[Installation path]\Perceptive Intelligent Capture\License\Runtime.lic"
```
3. Set the `licensePath` value to your license file location.
4. Save and close the file.

### Modify the instanceName when using multiple web servers

To ensure that the `instanceName` value in the `Web.config` is unique across all web servers accessing the same PIC database, complete the following steps.

1. From the **[Installation path]\Perceptive Intelligent Capture Web Server** directory, open **Web.config** in a text editor.
2. Search for the following XML elements.
 

```
<system.controllers><client instanceName="Web Verifier"
remoteObjectRenewalTimeout="180"></client>
```
3. Change
 

```
instanceName="Web Verifier"
to
instanceName="Web Verifier [xx]",
with xx being unique across the system.
```

**Examples**

```
instanceName="Web Verifier 01" for the first server
instanceName="Web Verifier 02" for the second server
```

## Modify the database connection strings for Web Verifier

To modify the database connection string, complete the following steps.

1. From the **[Installation path]\Perceptive Intelligent Capture Web Server** directory, open the **Web.config** file in a text editor.
2. Search for the `<connectionStrings>` element.
3. For a SQL Server database, modify the following values.
  - Set **Data Source** to the data source.
  - Set **Initial Catalog** to the SQL Server database catalog.
  - Set **User ID** to the service account user ID.
  - Set **Password** to the service account password.
4. For an ORACLE database, modify the following values.
  - Set **Data Source** to the data source.
  - Set **User ID** to the service account user ID.
  - Set **Password** to the service account password.
5. Save and close the file.
6. Create a copy of the **Web.config** file and move it to **[Installation path]\Perceptive Intelligent Capture\bin**.
7. Rename the **Web.config** file copy to **Brainware.System.Project.exe.config**.

## About HTTP compression for IIS

To enhance application performance, you can optionally enable HTTP compression. For more information, refer to <http://technet.microsoft.com>.

## Configure server security for Web Verifier

### Add the user context in SQL Server

To use Web Verifier, your users need access rights for the SQL Server database with the Web Verifier user context. The default user context is Network Service.

**Note** If you log in to the SQL Server using Windows authentication, you need to add the domain username to the SQL Server database in addition to the NT Authority/Network Service.

To add the Network Service user context to the SQL Server, complete the following steps.

1. In Microsoft SQL Server Management Studio, in the left pane, click Security > Logins.
2. Right-click **Logins** and then click **New Login**.
3. In the **Login** dialog box, click **Search**.
4. In the **Select User or Group** dialog box, in the **Enter the object name to select** field, type **NETWORK SERVICE**, click **Check Names** and then click **OK**.
5. In the **Login** dialog box, in the left pane, click **Server Roles**.
6. In the right pane, under **Server roles**, select **sysadmin** and then click **OK**.

### Verify the IIS settings

To verify that the IIS runs under NT Authority\Network Service, complete the following steps.

1. In **Internet Information Services (IIS) Manager**, in the **Connections** pane, open the server node and click **Application Pools**.
2. In the **Application Pools** pane, right-click **Web Verifier Pool** and then click **Advanced Settings**.
3. In the **Advanced Settings** dialog box, under **Process Model**, verify that the **Identity** property has the value **NetworkService**.

### Set permissions for PIC projects

PIC stores all projects in a file system directory. To enable the Web Verifier to load projects, you must assign appropriate permissions for the project directory.

To grant permission to the Network Service user for the project directory, complete the following steps.

1. In the **Windows Explorer**, right-click your projects directory and then click **Properties**.
2. In the **Properties** dialog box, on the **Security** tab, click **Edit**.
3. In the **Permissions** dialog box, click **Add**.
4. In the **Select Users, Computers, Service Accounts, or Groups** dialog box, in the **Enter the object names to select** field, type **NETWORK SERVICE**, click **Check Names** and then click **OK**.

## Configure Internet Explorer for Web Verifier

To configure Internet Explorer for Web Verifier, complete the following steps.

1. In **Internet Explorer**, click **Tools > Internet Options**.
2. In **Internet Options** dialog box, on the **Security** tab, click **Custom level**.
3. In the **Security Settings** dialog box, under **ActiveX controls and plug-ins**, enable the following settings.
  - Binary and script behaviors
  - Run ActiveX controls and plug-ins
4. Under **Scripting**, enable the following settings.
  - Active scripting
  - Allow status bar updates via script

**Note** This setting allows Web Verifier to display information on batches, documents, current filters, and page numbers in the Internet Explorer status bar.

## Single sign-on authentication

### About the single sign-on authentication for the Web Verifier

Web Verifier supports single sign-on (SSO) user authentication. SSO intercepts the login request and either gathers the user credentials, or accepts the user as already authenticated.

PIC provides the SSO functionality as a generic solution. It works with any SSO implementation and configuration that provides the user credential information through an HTTP header.

For information on configuring the SSO service provider, refer to your provider's product documentation.

### Enable the single sign-on authentication

To enable single sign-on authentication, complete the following steps.

1. From the **[Installation path]Perceptive Intelligent Capture Web Server** directory, open the **Web.config** file in a text editor.
2. Search for the `<httpHeaderBasedSso>` element.
3. Set the `enabled` attribute to `true`.
4. Set the `loginHeader` attribute to the HTTP header attribute name that the SSO service returns.
5. Set the `sessionHeader` attribute to the default session-ID header that the SSO service returns.
6. Save and close the file.

#### Example

```
<httpHeaderBasedSso loginHeader="remoteuser" enabled="true"
sessionHeader="ShibSessionID" />
```

## About the single sign-on session and the Web Verifier session

Using SSO involves two different sessions: the SSO session and the Web Verifier session.

To prevent verifier data loss, the SSO session should have a longer timeout than the Web Verifier session.

The SSO and Web Verifier sessions renew with every server request, such as field validation or opening a batch. The sessions do not renew with client-side actions, such as zooming in on an image or typing a value into a form field without validating it.

For details on how to configure the SSO session timeout, refer to your SSO provider documentation.

## Modify the Web Verifier session timeout

To modify the Web Verifier session timeout, complete the following steps.

1. From the **[Installation path]Perceptive Intelligent Capture Web Server** directory, open the **Web.config** file in a text editor.
2. Search for the `<sessionState>` element.
3. Set the `timeout` attribute, in minutes, according to your needs.

## Windows authentication

### About Windows authentication for Web Verifier

Web Verifier allows you to log in using Windows authentication instead of Forms authentication.

After you configure this option, your users will only be able to log in with Windows authentication. However, you can use the re-login menu option to login with an account other than your Windows user account, for example as an administrator, to perform certain administrative tasks.

### Configure Windows authentication in IIS 7.5 and higher

#### Prerequisite

- Add the Windows user to the PIC database.

To configure Windows authentication for the Web Verifier in IIS 7.5 and higher, complete the following steps.

1. In the **Internet Information Services (IIS) Manager** window, in the left pane, open the tree view until **Web Verifier** displays.
2. Click **Web Verifier** and then, in the middle pane, under **IIS**, double-click **Authentication**.
3. In the **Authentication** pane, enable **Windows Authentication** and disable all other authentication methods.
4. Restart any open browser sessions.

## Create a Windows authentication-version of the Web.config file

We recommend maintaining two versions of the Web.config file to simplify switching between the default Forms authentication and Windows authentication methods.

To create a copy of the default Web.config file and modify it for Windows authentication, complete the following steps.

1. From the **[Installation path]Perceptive Intelligent Capture Web Server** directory, create a backup of the **Web.config** file for the Forms authentication method.

**Note** You can store this backup Web.config for Forms authentication in any directory.

2. Open the original **Web.config** file in a text editor.
3. Complete the following substeps.

1. Search for the following line.

```
<authentication mode="Forms">
```

2. Replace **Forms** with **Windows**.

```
<authentication mode="Windows">
```

3. Remove the following line.

```
<forms loginUrl="Login.aspx" defaultUrl="BatchView.aspx" />
```

4. Under the **<authorization>** node, replace the **<deny users="?" />** element with an **<allow users="?" />** element.

5. Under the **<pages>** node, add an **<pages enableSessionState="true">** element.

6. Remove all **<location path=>** nodes.

7. Save and close the file.

## Switch back to Forms authentication

To switch from Windows authentication mode back to default Forms authentication, complete the following steps.

1. Open **Administrative Tools** and then double-click **Internet Information Services (IIS) Manager**.
2. In the **Internet Information Services (IIS) Manager** window, in the left pane, open the tree view until **Web Verifier** displays.
3. Click **WebVerifier** and then, in the middle pane, under **IIS**, double-click **Authentication**.
4. In the Authentication pane, disable **Windows Authentication** and enable **Anonymous Authentication** and **Forms Authentication**.
5. Copy the backed up **Web.config** file to the **[Installation path]Perceptive Intelligent Capture Web Server** directory.
6. Restart any open browser sessions.

## About SSL configuration for Web Verifier

For information on how to configure SSL on your IIS machine, refer to <http://support.microsoft.com>.

## Configure cookies for Web Verifier

### Set secure flag for cookies

You can set secure flag for cookies to ensure that the browser sends the cookies over a secure network (https) only. However, for this functionality to be effective, SSL needs to be configured in the server.

To set secure flag for cookies, complete the following steps.

1. Add `<httpCookies>` element with the `requireSSL` attribute set to "true" (under the `<configuration><system.web>` section): `<httpCookies requireSSL="true" />`
2. For forms authentication, add `requireSSL` attribute to `<forms>` (located in `<configuration><system.web><authentication>`): `<forms loginUrl="Login.aspx" defaultUrl="BatchView.aspx" requireSSL="true" />`

### Deployment Suggestion

You can deploy Web Verifier either as the root level website or, as the only web application under a website in IIS, to prevent the access of Web Verifier cookies from another web application.

## Use Traditional Chinese

If you choose Chinese as UI language, Web Verifier uses Simplified Chinese by default.

To change to Traditional Chinese, complete the following steps.

1. From the ***[Installation path]\Perceptive Intelligent Capture Web Server\bin\Resources*** directory, create a backup copy of the **zho** directory.
2. Copy all files from the ***[Installation path]\Perceptive Intelligent Capture Web Server\bin\Resources\cmn*** directory to the ***[Installation path]\Perceptive Intelligent Capture Web Server\bin\Resources\zho*** directory.
3. From the ***[Installation path]\Perceptive Intelligent Capture Web Server*** directory, open the **Web.config** file in a text editor.
4. Complete the following substeps.
  1. Search for the following line.
 

```
<add key="LanguageDisplayName_ZHO" value="中文简体" />
```
  2. Modify the line as follows.
 

```
<add key="LanguageDisplayName_CMN" value="中文繁體" />
```
5. Save and close the file.
6. Restart any open browser sessions.

## Access the PIC Web Verifier

To access PIC Web Verifier, complete the following step.

- In your browser, type **http://localhost/WebVerifier/login.aspx**.

## Configure columns for the batch view in Verifier or Web Verifier

### Batch view columns

You can use the following columns to view additional information in batches.

- ExternalGroupId
- ExternalBatchId
- TransactionId
- TransactionType

### About displaying additional columns

You can display additional columns in Verifier and Web Verifier. If you display the external group ID column, verify that the group ID matches the group ID you created for the users.

### Display and name additional Verifier columns: SQL Server

To display additional Verifier columns from a SQL database, in Microsoft SQL Server Management Studio, in your PIC database, modify and execute any of the following commands.

- **External group ID**  

```
exec sp_SetGlobalApplicationSetting 'SysAppBatchColumnExternalGroupId', '[Column header name, for example User Group]', True
```
- **External batch ID**  

```
exec sp_SetGlobalApplicationSetting 'SysAppBatchColumnExternalBatchId', '[Column header name, for example Batch Group]', True
```
- **Transaction ID**  

```
exec sp_SetGlobalApplicationSetting 'SysAppBatchColumnTransactionId', '[Column header name, for example Transaction]', True
```
- **Transaction type**  

```
exec sp_SetGlobalApplicationSetting 'SysAppBatchColumnTransactionType', '[Column header name, for example Transaction Type]', True
```

### Display and name additional Verifier columns: Oracle

To display additional Verifier columns from an Oracle database, from the SQL\*Plus or ORACLE Management Console, in your PIC database, execute any of the following commands.

- **External group ID**  

```
exec sp_SetGlobalApplicationSetting ('SysAppBatchColumnExternalGroupId', '[Column header name, for example User Group]', 1)
```
- **External batch ID**  

```
exec sp_SetGlobalApplicationSetting ('SysAppBatchColumnExternalBatchId', '[Column header name, for example Batch Group]', 1)
```
- **Transaction ID**  

```
exec sp_SetGlobalApplicationSetting ('SysAppBatchColumnTransactionId', '[Column header name, for example Transaction]', 1)
```



- **Transaction type**

```
exec sp_SetGlobalApplicationSetting ('SysAppBatchColumnTransactionType', '[Column header name, for example Transaction Type], 1)
```

## Display additional Web Verifier columns

The PostImportBatch event in the project script displays additional Web Verifier columns. For more information on the event, refer to the “PostImportBatch” topic in the *Perceptive Intelligent Capture Scripting Guide*.

To display additional columns in Web Verifier, complete the following steps.

1. From the **[Installation path]\Perceptive Intelligent Capture Web Server** directory, open the **Web.config** file in a text editor.
2. Search for the following elements and set the `visible` attribute to `true` for the columns you want to display.
  - **externalGroupIdColumn**
  - **externalBatchNameColumn**
  - **transactionIdColumn**
  - **transactionTypeColumn**
3. Save and close the file.
4. Restart any open browser sessions.

## Change the Web Verifier column names

To change the display names for any additional columns in Web Verifier, complete the following steps.

1. From the **[Installation path]\Perceptive Intelligent Capture Web Server\bin\resources\[language code]** directory, open the **Brainware.Verifier.WebClient.resx** file in a text editor.
2. Search for the following `<data name=>` elements.
  - **TEXT\_EXTERNAL\_BATCH\_NAME**
  - **TEXT\_EXTERNAL\_GROUP\_ID**
  - **TEXT\_TRANSACTION\_ID**
  - **TEXT\_TRANSACTION\_TYPE**
3. Set the `<value>` attributes with the names you want to display.
4. Save and close the file.
5. Restart any open browser sessions.

## Global application settings

### About workflow history reporting

You can activate the workflow history reporting for documents, fields, table cells, classification, learning, and OCR and document separation. Changing these settings takes immediate effect and applies to all users.

#### Configure workflow history reporting: SQL Server

To configure workflow history reporting for SQL Server, in Microsoft SQL Server Management Studio, in your PIC database, execute any of the following commands.

- **For documents**  

```
exec sp_SetGlobalApplicationSetting 'SysAppHistoryReportingActivatedForDocument', 'True', True
```
- **For fields**  

```
exec sp_SetGlobalApplicationSetting 'SysAppHistoryReportingActivatedForField', 'True', True
```
- **For fields and table cells**  

```
exec sp_SetGlobalApplicationSetting 'SysAppHistoryReportingActivatedForTableCell', 'True', True
```
- **For classification**  

```
exec sp_SetGlobalApplicationSetting 'SysAppHistoryReportingActivatedForClass', 'True', True
```
- **For OCR and document separation**  

```
exec sp_SetGlobalApplicationSetting 'SysAppHistoryReportingActivatedForPage', 'True', True
```
- **For learning**  

```
exec sp_SetGlobalApplicationSetting 'SysAppHistoryReportingActivatedForLearning', 'True', True
```

#### Configure workflow history reporting: Oracle

To configure workflow history reporting for Oracle, in SQL\*Plus or Oracle Management Console, in your PIC database, execute any of the following commands.

- **For documents**  

```
exec sp_SetGlobalApplicationSetting ('SysAppHistoryReportingActivatedForDocument', 'True', 1)
```
- **For fields**  

```
exec sp_SetGlobalApplicationSetting ('SysAppHistoryReportingActivatedForField', 'True', 1)
```
- **For fields and table cells**  

```
exec sp_SetGlobalApplicationSetting ('SysAppHistoryReportingActivatedForTableCell', 'True', 1)
```
- **For classification**  

```
exec sp_SetGlobalApplicationSetting ('SysAppHistoryReportingActivatedForClass', 'True', 1)
```

- **For OCR and document separation**  
`exec sp_SetGlobalApplicationSetting ('SysAppHistoryReportingActivatedForPage', 'True', 1)`
- **For learning**  
`exec sp_SetGlobalApplicationSetting ('SysAppHistoryReportingActivatedForLearning', 'True', 1)`

## About disabling batch deletion in Runtime Server and Designer

You can disable batch deletion in Runtime Server and Designer. Changing these settings takes immediate effect and applies to all users.

### Disable batch deletion: SQL Server

To disable batch deletion for SQL Server, in Microsoft SQL Server Management Studio, in your PIC database, execute any of the following commands.

- **For Designer**  
`exec sp_SetGlobalApplicationSetting 'SysAppBatchDeletionDisabledInDesigner', 'True', True`
- **For Runtime Server**  
`exec sp_SetGlobalApplicationSetting 'SysAppBatchDeletionDisabledInRTS', 'True', True`

### Disable batch deletion: Oracle

To disable batch deletion for Oracle, in SQL\*Plus or Oracle Management Console, in your PIC database, execute any of the following commands.

- **For Designer**  
`exec sp_SetGlobalApplicationSetting ('SysAppBatchDeletionDisabledInDesigner', 'True', 1)`
- **For Runtime Server**  
`exec sp_SetGlobalApplicationSetting ('SysAppBatchDeletionDisabledInRTS', 'True', 1)`

## About modifying the URL expiration time for Web Verifier

You can modify the URL expiration time for Web Verifier. Changing these settings takes immediate effect and applies to all users.

### Modify the URL expiration time: SQL Server

To modify the URL expiration time for SQL Server, in Microsoft SQL Server Management Studio, in your PIC database, complete the following step.

- Execute the following command, specifying the expiration time in seconds for the second parameter.  
`exec sp_SetGlobalApplicationSetting 'SysAppUrlSignatureExpirationPeriod', '300', True`

## Modify the URL expiration time: Oracle

To modify the URL expiration time for Oracle, in SQL\*Plus or Oracle Management Console, in your PIC database, complete the following step.

- Execute the following command, specifying the expiration time in seconds for the second parameter.  

```
exec sp_SetGlobalApplicationSetting ('SysAppUrlSignatureExpirationPeriod', '300', 1)
```

## Perceptive Intelligent Capture Security

### File system security

Although PIC provides application-level security, the PIC applications rely on the integrated Windows file system security to control access to application and project data in SDP, DAT, and WDC files.

PIC uses a combination of shared and file and directory permissions to control the access of users, groups, and applications to directories and files.

The following table lists the available file permissions.

File Permission	Access Granted
Read	Allows the user or group to read the file and view its attributes, ownership, and permissions.
Write	Allows the user or group to overwrite the file, change its attributes, and view its ownership and its permissions.
Read and Execute	Allows the user or group to execute the file. Includes the Read permissions.
Modify (CHANGE)	Allows the user or group to modify and delete the file. Includes the Read, Write, and Read and Execute permissions.
Full Control	Allows the user or group to change the files permissions and to take ownership of the file. Includes all other file permissions.

The following table lists the available directory permissions.

Directory Permission	Access Granted
Read	Allows the user or group to view the files, folders, and subfolders of the parent folder and to view the folder attributes, ownership, and permissions.
Write	Allows the user or group to create new files and folders within the parent folder, view folder ownership and permissions, and change folder attributes.
List Folder Content	Allows the user or group to view the files and subfolders in the folder.
Read and Execute	Allows the user or group to navigate through all files and subfolders. Includes the Read and List Folder Contents permissions.
Modify (CHANGE)	Allows the user to delete the folder. Includes the Write and Read and Execute permissions.
Full Control	Allows the user or group to change the folder permissions and to take ownership of the folder. Includes all other folder permissions.

## Recommended accounts and groups

To control access to PIC project data, we recommend a combination of Discretionary Access Control (DAC) and Role-based Access Control (RBAC).

The DAC model allows the system administrators to control which users can access objects and resources and the operations they can perform.

The RBAC model, also known as non-discretionary model, grants access based on the rights and permissions of roles and groups. The users inherit their rights and permissions from their assigned roles and groups.

The following table lists the groups and accounts recommended for each PIC implementation.

Group/ Account Name	Purpose
PIC ProjectUsers	Global group containing all users designated as PIC project designer or data verifier. Add this group to the PIC Users group.
PIC Admin	Global group containing all users designated as a PIC system administrator. Add this group to the PIC group on all RTS servers and RTS remote administration workstations.
PIC	Local group used to grant access to local PIC resources. Create this group on all RTS server and RTS remote administration workstations.
PIC Users	Local group used to grant access to the project directory. Create this group on the PIC server on which the project directory resides.

Group/ Account Name	Purpose
PIC RTSSvc	Service account used to start the PIC service manager. Add this user to the PIC Admin group and the local administrators group on all PIC servers and remote administration workstations.

The following table lists the groups and accounts, assigned permissions, and the directories and objects on which you need to apply the permissions for each PIC implementation.

Group/ Account Name	Permission Type: Shared	Permission Type: NTFS	Directory/Objects Assigned On
Perceptive Intelligent Capture	Full Control	Full Control	C:\Program Files\ [company]\ [ProjectName]
Perceptive Intelligent CaptureUsers	Change	Modify	C:\Program Files\ [company]\ [ProjectName]

## Configure access to project data

PIC uses a hierarchical file structure to store project-related data, where the project directory is at the highest level.

All PIC components including services, applications, license engines, and users need appropriate access rights to the project directory and its subfolders.

To configure the access rights to the PIC project directory, complete the following steps.

1. In **Windows Explorer**, right-click your projects directory and then click **Properties**.
2. In the **Properties** dialog box, on the **Sharing** tab, click **Advanced Sharing**.
3. In the **Advanced Sharing** dialog box, select **Share this folder**.
4. In the **Share name** box, type a name for the share and then click **Permissions**.
5. In the **Permissions for Projects** dialog box, complete the following substeps.
  1. Click **Add**.
  2. In the **Select Users, computers, Service Accounts or Groups** dialog box, in the **Enter the object names to select** field, type the local PIC group name and click **OK**.
  3. Repeat the previous two steps to add the local administrators and PIC users group names.
  4. For the local PIC group and the local administrators group, select **Full Control**.
  5. For the local PIC users group, select **Change**.
  6. Select the **Everyone** group, click **Remove** and then click **OK**.
6. In the **Properties** dialog box, in the **Security** tab, complete the following substeps.
  1. Add the local PIC group and the local administrators group with **Full Control** permission.
  2. Add the local PIC users group with **Change** permission.
  3. Select the **Everyone** group, click **Remove** and then click **OK**.

## Service account configuration

### About the service account on a domain network

The PIC Runtime Server service utilizes a Windows service to manage the Runtime Server instances and the document processing.

When running PIC on multiple servers located on a domain network, we recommend assigning a domain user to the PIC Runtime Server service against the Windows service. This allows PIC to communicate with all servers running the service across the domain.

The service account, used in PIC, needs permissions for any file or directory shares across the servers to allow the PIC Runtime Server service to access all project-related files.

**Note** Do not use the service account to log into the system, either locally or through Remote Desktop. You can configure the Security Settings for the “Deny log on locally” and “Deny log on through Remote Desktop Services” policies in Windows on the system running the services.

### About the service account for system monitoring

You can use the System Monitoring service to send emails to selected users for any Runtime Server errors or warnings.

The service user account used for System Monitoring needs sufficient rights on the server and domain to send emails.

### About the service account for email importing

PIC provides the ability to import emails, automatically download emails from a mailbox, and import the emails into the PIC system. The PIC Runtime Server service needs sufficient access rights to access the mailbox and to download emails.

## Runtime Components configuration

### About RTS Remote Administration MMC

Before you can use PIC, you must configure the Runtime Service Manager (RTS).

The RTS Remote Administration Microsoft Management Console (MMC) snap-in enables you to start and stop multiple PIC Runtime Servers remotely from a single workstation on the network. The PIC installation creates a default console, called Runtime Server Administration that you can use to configure the RTS Remote Administration MMC snap-in.

### Configure the PIC Runtime Service Manager service

#### Prerequisite

- Verify that the PIC RTSvc domain user exists.

To configure the PIC Runtime Service Manager service, complete the following steps.

1. Log in to **Windows** using an account with administrator rights.
2. Start **Windows Services**.
3. Right-click the **Perceptive Intelligent Capture Runtime Service Manager** service and then click **Properties**.
4. In the **Perceptive Intelligent Capture Service Manager Properties** dialog box, on the **General** tab, set the **Startup type** according to your needs.
5. On the **Log On** tab, select **This account** and then click **Browse**.
6. In the **Select User** dialog box, click **Locations**.
7. In the **Locations** dialog box, select the domain that has the required account and then click **OK**.
8. In the **Select User** dialog box, in the **Enter the object name to select** box, type the domain user name, such as PIC RTSvc, click **Check Names**, and then click **OK**.
9. Type the password for the user in the **Password** and the **Confirm password** fields and then click **OK**.

### Configure the RTS Remote Administration MMC Snap-in

#### Prerequisites

- Verify that the PIC Runtime Service Manager service is running. This lets you connect by MMC to the machine.
- Identify one free configurable port available in any TCP/IP network or the Internet across firewalls. The default port number is 50607.
- Verify one of the following prerequisites.
  - The administration workstation resides on the same LAN segment as the RTS services.
  - In a sub-netted network, a name resolution system is in place to allow clients on one subnet to locate resources on another subnet.



To configure the snap-in, complete the following steps.

1. Start **PIC Runtime Service Management Console**.
2. In the **Runtime Server Administration** window, in the left pane, right-click **Runtime Server Administration** and click **New RTS Group**.
3. In the **New Group** dialog box, type a group name and click **OK**.
4. Open the **Runtime Server Administration** node, right-click the newly created group, and then click **New Machine**.
5. In the **Group Management** dialog box, complete the following substeps.
  1. From the **Domains** list, select the required domain and then click **Search**.
  2. In the left pane, select the required machines, click **>>** and then click **OK**.
6. In the **Runtime Server Administration** window, complete the following substeps.
  1. In the left pane, right-click the newly added machine and then click **License**.
  2. In the **License Information** dialog box, verify or change the license path and then click **OK**.
  3. In the left pane, right-click the newly added machine and then click **New > RTS Instance**.
  4. In the **New RTS Instance** dialog box, type an instance name and then click **OK**.

## Configure the email import feature in Microsoft Outlook

You can optionally configure PIC to import emails from Microsoft Outlook. To configure the email import feature, complete the following steps.

1. In **Windows Control Panel**, click **Mail**.
2. In the **Mail** dialog box, click **Add**.
3. In the **New Profile** dialog box, type **RTS\_Import** and then click **OK**.
4. In the **Add New Account** dialog box, select **Manually configure server settings or additional server types** and then click **Next**.
5. In the **Choose Service** page, select **Microsoft Exchange or compatible service**.
6. In the **Server Settings** page, complete the following substeps.
  1. In the **Server** field, type the name of your Microsoft Exchange Server.
  2. Clear the **Use Cached Exchange Mode** check box.
  3. In the **User Name** field, type the user name and then click **Next**.
7. To create the account and close the wizard, click **Finish**.
8. In the **[Installation path]Perceptive Intelligent Capture** directory, create a new batch file that contains the following line and then run the file.
 

```
DstHost.exe /TestMailUI
```
9. In the **Outlook** login dialog box, complete the following substeps.
  1. In the **User name** field, type **[domain name]/[ user name]** and in the **Password** field, type the password.
  2. Select **Remember my credentials** and then click **OK**.

10. From the **[Installation path]\Perceptive Intelligent Capture\bin\Log** directory, open the latest **I\_[YYYYMMDD]\_DistillerRuntimeServiceHost\_[PID].log** file and check for a success or error message, such as, `Managed to open the folder 'Inbox'.`
11. In the **[Installation path]\Perceptive Intelligent Capture** directory, create a new batch file that contains the following line and then run the file.  
`DstHost.exe /TestMail`  
**Note** This writes a message to the log file, but does not open the **Outlook** login dialog box.

## The desktop heap size

### Modify the desktop heap size

If you run more than 10 concurrent Web Verifier sessions or Runtime Service instances, modify the Windows desktop heap size to prevent internal memory issues.

To modify the desktop heap size, complete the following steps.

1. Open the **Windows registry editor**.
2. Back up the registry settings.
3. Navigate to **[HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\SubSystems]**.
4. In the right pane, right-click the **Windows** entry, and then click **Modify**.
5. In the **Edit String** dialog box, in the editing field, modify the third argument of the **SharedSection** parameter, which defines the desktop heap size. Set it to the appropriate heap size defined in the “Ideal desktop heap size” topic.
6. Reboot the server.

### Ideal desktop heap size

Determine the ideal desktop heap size with the following table.

Number of concurrent Web Verifier or Runtime Server instances	Desktop heap size in KB
1 – 10	Operating system default value
11 – 24	1024
25 – 36	1536
37 – 48	2048
49 – 60	2560
61 – 72	3072

## About logging

The standard Runtime Server log files include system level resource information and, in case of a system failure, special error logs.

### Application log files

Each log file contains the following information.

Entry Nr.	Description
1	Type of message such as Info, Warning, Error
2	Severity of message
3	Time logged
4	Process ID (PID)
5	Overall used/available physical memory in KB
6	Overall used/available virtual memory in KB
7	Used physical/virtual memory by this RTS instance in KB
8	Number of process handles used by this RTS instance
9	GDI resources/UserObjects used by this RTS instance
10	Message text

The following log files are available in the *[Installation path]\Perceptive Intelligent Capture\bin\Log* directory.

Log file name	Description
V_*.log	Verifier messages including custom script errors
VA_*.log	Advanced Verifier messages
VL*.log	Local Verifier messages
H_*.log	Runtime Server Host (DstHost) messages for a single RTS instance
L_*.log	Learnset Manager messages, such as when the user triggers document learning, or backs up the Learnset
D_*.log	Designer messages including script errors
U_*.log	Web Verifier and external application messages
S_*.log	Service Manager (DstMgr) messages, such as start and end of service, restart, failures

Log file name	Description
I_*.log	Component log files for all applications
M_*.log	System Monitoring (DstEvent) messages. Holds all system messages and can log error messages across all server machines and hosts

## Error log files

In the event of system or application failures, PIC creates an additional error log file named C\_<Process ID>\_yyyymmdd.log.

## OCR engine languages

The following table lists the OCR engine languages supported by FineReader 10 and 11.

Supported OCR languages		
Bulgarian	Italian	Romanian
Chinese Simplified *	Japanese *	Russian *
Chinese Simplified + English *	Japanese + English *	Slovak
Czech	Korean *	Slovenian
Danish	Korean + English * <b>Note</b> Only with FineReader 11	Spanish
Digits	KoreanHangul	Swedish
Dutch	Latvian	Thai *
English	Lithuanian	Turkish
Estonian	Norwegian	Ukrainian *
Finnish	NorwegianBokmal	Vietnamese *
French	NorwegianNynorsk	CMC7
German	Polish	E13B
Greek *	Portuguese Brazilian	
Hungarian	Portuguese Standard	

\* These languages require support of double byte and extended ASCII character sets. To avoid performance loss, do not use more than one DBCS language in a project.

## Available OCR Engines

The following optional OCR engines are available, but require separate licensing. Contact your Lexmark Enterprise Software representative for more information.

### **Cleqs Barcode Engine**

Reads handwritten and machine-printed data and barcode information. It reads 18 types of barcodes.

### **FineReader10 OCR Engine**

Supports Chinese, Korean and Japanese characters in addition to English, German, Italian, French, and Spanish characters. Converts paper-based or scanned images to editable text.

### **FineReader11 OCR Engine**

Supports OCR of several additional languages and features several improvements in the OCR output quality relative to FineReader 10.

- Receipt Mode
- Improved auto-orientation
- Improved OCR of amounts with leading or trailing asterisks.
- Improved OCR of amounts with leading dollar sign.

### **Kadmos 5 OCR Engine Client Edition**

Used for handwriting recognition.

### **Kadmos 5 OCR Engine Server Edition**

A server edition capable of processing for multiple users and on multiple processors is available by additional licensing.

### **QualitySoft Barcode Engine**

Supports both grayscale and color images and recognizes 19 different barcode types.

## About INI file encryption

PIC allows password encryption in an INI file for database and SAP connection strings by using RSA encryption. RSA encryption contains a public and a private key.

For more information, see “About encryption keys” in the Perceptive Intelligent Capture Scripting Guide.

## About automated update

You can enable your system to automate updates to your PIC workstations. The automated update feature compares the build level files in the shared network directory and local update directory, and if required, an update performs before the application starts.

If you did not configure the automated update feature during the installation process, you can configure the feature manually.

**Note** This feature is not available for all versions of PIC. For details, refer to the appropriate *Perceptive Intelligent Capture Release Notes*.

## Modify the batch file

**Prerequisite** Determine a shared network directory on a server to incorporate the update files. All PIC workstations must have access permissions to this directory.

To modify the batch file to automate updates, complete the following steps on each PIC server and workstation.

1. From the **[Installation path]Perceptive Intelligent Capture\bin** directory, open the **AutoInstall.bat** file in a text editor.
2. Search for the following line.  
`SET SHAREDNETFOLDER =\\YourNetworkInstallServerName\YourInstallShareName`
3. Modify `\\YourNetworkInstallServerName\YourInstallShareName` to your shared network directory.
4. Save and close the file.

## Modify the application shortcuts for PIC Verifier and PIC Designer

To set up PIC Designer and PIC Verifier to run the automated update feature each time they start, complete the following steps.

1. In the **Windows** start menu, right-click the **PIC Designer** application and then click **Properties**.
2. On the **Shortcut** tab, in the **Target** field, change **DstDsr.exe** to **DstDsr\_AutoUpdate.bat** and then click **OK**.
3. In the **Windows** start menu, right-click the **PIC Verifier** application and then click **Properties**.
4. On the **Shortcut** tab, in the **Target** field, change **DstVer.exe** to **DstVer\_AutoUpdate.bat** and then click **OK**.

## Automate Runtime Server updates

To configure the automated update for PIC Runtime Server, you can create a Windows task.

In the **Windows Task Scheduler**, create a new task that executes the following steps.

1. To stop the RTS service, in **[Installation path]Perceptive Intelligent Capture\bin** directory, run **Stop RTS running as NT Service.bat**.  
**Note** Verify that RTS is not actively processing documents before you stop the service.
2. In **[Installation path]Perceptive Intelligent Capture\bin**, run **AutoInstall.bat**.
3. To start the RTS service, in **[Installation path]Perceptive Intelligent Capture\bin**, run **Start RTS running as NT Service.bat**.

## About port configuration

In case of a conflict in port assignments or for the purpose of firewall configuration, you can change the port the Runtime Server uses for the TCP/IP communication channel.

The PIC Runtime Server service, the instance processes, and the MMC use the same Port registry setting. The default port is 50607.

### Configure a different port for PIC Runtime Server

To configure a different port for Runtime Server, complete the following steps.

1. In **Windows** registry, complete one of the following substeps.
  1. For a 32-bit machine, right-click **HKEY\_LOCAL\_MACHINE/SOFTWARE/Lexmark/Services** and then click **New > DWORD (32-bit) Value**.
  2. For a 64-bit machine, right-click **HKEY\_LOCAL\_MACHINE/SOFTWARE/Wow6432Node/Lexmark/Services** and then click **New > DWORD (32-bit) Value**.
2. In the **Name** field, type **Port**.
3. Right-click the **Port** key and click **Modify**.
4. In the **Edit DWORD (32-bit) Value** dialog box, in the **Value data** field, type the number of an available port and then click **OK**.
5. Restart the **Perceptive Intelligent Capture Runtime Server** service.
6. Repeat the previous steps on all PIC servers.

## File permission matrix

The following tables list the various file permissions used within PIC.

Role/Group	Description
Administrators	Users with full access rights to all application modules and features.
Developers	Users that develop, maintain, and enhance projects.
Learnset Manager	Typically one single user responsible for maintaining the project Learnsets.
Advanced Verifiers	Several users responsible for identifying documents for improvements to the project Learnset.
Standard Verifiers	Users responsible for document correction.
RTS Service User	The service account responsible for running the service for automatic document processing. Configured only on the server machines.

Directory	Groups	NTFS Permissions						
		Full Control	Modify	Read & Execute	List Folder Content	Read	Write	No Access
License Share	Administrators Developers Learnset Manager Advanced Verifiers Standard Verifiers RTS Service User	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Common Folder	Administrators Developers Learnset Manager Advanced Verifiers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Standard Verifiers RTS Service User	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Global Project	Administrators Developers Learnset Manager RTS Service User	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Advanced Verifiers Standard Verifiers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Project	Administrators Developers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Learnset Manager RTS Service User Standard Verifiers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Advanced Verifiers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Local Learnset	Administrators Developers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Learnset Manager RTS Service User Standard Verifiers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Advanced Verifiers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Directory	Groups	NTFS Permissions						
		Full Control	Modify	Read & Execute	List Folder Content	Read	Write	No Access
Global Learnset	Administrators Developers Learnset Manager RTS Service User	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Advanced Verifiers Standard Verifiers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ASE Pool	Administrators Developers RTS Service User	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Learnset Manager Advanced Verifiers Standard Verifiers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ASSA CSV File	Administrators Developers RTS Service User	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Learnset Manager Advanced Verifiers Standard Verifiers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Web.config options and associated resource file parameters

This topic lists Web.config file options you can modify to enable, disable, or customize features.

For more information about the event options, refer to the Perceptive Intelligent Capture Scripting Guide.

Option	Description
ADOCmdExecutionTimeout	<p>Defines the timeout, in seconds, for executing stored procedures in the database.</p> <p><b>Possible values:</b> Any valid integer</p>
AllowAccessToDocumentsToIndexOnly	<p>True: Enable navigation to indexable documents only False: Enable navigation to out-of-workflow documents.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p> <p>For more information, see <a href="#">About navigation to documents for indexing</a>.</p>
BatchViewPageSize	<p>Defines the number of batches per page that display in the PIC Web Verifier batch list.</p> <p><b>Default value:</b> 20</p> <p><b>Possible values:</b> Any valid integer</p>
ClientSideDocumentCacheSize	<p>Defines the number of pages to cache in the current document.</p> <p><b>Default value:</b> 0.</p> <p><b>Possible values:</b> Any valid integer</p>
connectionStrings	<p>The database connection string.</p>
DialogWidth	<p>Defines the default width, in pixels, of message boxes in PIC Web Verifier.</p> <p><b>Default value:</b> 400.</p> <p><b>Possible values:</b> Any valid integer</p>
<p><b>document.controller</b></p> <p>document cacheSize</p>	<p>Specifies the number of workdoc objects to pre-load. This accelerates opening documents within the batch.</p> <p>You cannot disable pre-loading, but minimize the number of pre-loaded documents to 2, that means one current and one pre-loaded.</p> <p><b>Default value:</b> 5.</p> <p><b>Possible values:</b> Any valid integer</p>

Option	Description
<p><b>document.controller</b></p> <p>document maxPagesToPreload</p>	<p>Defines the number of document pages to pre-load.</p> <p>First and last pages always pre-load, and remaining cache slots fill with pages that have field candidates starting from the lower index.</p> <p>The following actions take place on page images when a document loads in the background.</p> <ul style="list-style-type: none"> <li>• Pre-load the page</li> <li>• Convert the page to PNG</li> <li>• Save the page to the database</li> </ul> <p><b>Default value:</b> 5.</p> <p><b>Possible values:</b> Any valid integer</p>
<p>DocumentViewPageSize</p>	<p>Defines the number of folders for Verifier to display in the document tree view when using Show Selected Batch mode. Additional batches display in subsequent navigation panels.</p> <p><b>Default value:</b> 10.</p> <p><b>Possible values:</b> Any valid integer</p>
<p>EnableProfiler</p>	<p>Whether to enable the PIC Web Verifier profiler.</p> <p><b>Default value:</b> FALSE</p> <p>The profiler collects and records the duration of user actions, such as commands and their internal sub-operations.</p> <p><b>Possible values:</b> TRUE / FALSE</p>
<p>externalGroupIdColumn</p>	<p>Whether the external group ID column displays in PIC Web Verifier.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
<p>externalBatchNameColumn</p>	<p>Whether the external batch name column displays in PIC Web Verifier.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>

Option	Description
focusChanged	<p>Whether to enables the focusChanged event for fields in the verification view.</p> <p>The event triggers when the user presses the Enter key in a field.</p> <p>The setting has no effect on the FocusChanged event if the &lt;mouseClicked&gt; attribute is set to true.</p> <p><b>Default value:</b> TRUE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
HelpLink	Links to Web Verifier Help.
httpHeaderBasedSso	Controls the single sign-on (SSO) user authentication mode.
httpHeaderBasedSso loginHeader	<p>Corresponds to the HTTP header attribute name that contains the SSO authenticated user name.</p> <p>The SSO service uses this attribute to send the user name.</p>
httpHeaderBasedSso Enabled	<p>Whether to use the PIC Web Verifier SSO feature.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
httpHeaderBasedSso sessionHeader	The provider-dependent name of the HTTP header that the SSO service uses to send the user session ID.
inactiveUserTimeout	<p>Unchangeable attribute.</p> <p><b>Note</b> This attribute does not control the user session timeout. The &lt;sessionState Timeout&gt; parameter controls the user session timeout.</p> <p><b>Value:</b> 20</p>
inspectionTimeOut	<p>Unchangeable attribute.</p> <p><b>Note</b> This attribute does not control the user session timeout. The &lt;sessionState Timeout&gt; parameter controls the user session timeout.</p>
instanceName	<p>The instanceName value displays in the batch list column “Last Module”.</p> <p><b>Note</b> The instanceName value must be unique across all installed Web Verifier servers accessing the same database.</p>
itemCopied	<p>Whether to enable the itemCopied event.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>

Option	Description
LanguageDisplayName_[ISO]	<p>Customizes the language display names in the language selection menu.</p> <p>Replace [ISO] by the three letter directory name in <i>[Installation path]\Perceptive Intelligent Capture Web Server\Bin\Resources</i>.</p> <p><b>Example for Simplified Chinese</b></p> <pre>&lt;add key="LanguageDisplayName_ZHO" value="中文简体"/&gt;</pre>
licensePath	<p>The location of the shared license file.</p> <p><b>Default value:</b> C:\Program Files (x86)\Lexmark\License\Runtime.lic</p> <p><b>Possible values:</b> Any valid path</p>
level	<p>Defines the tracing level.</p> <p>DEBUG: Trace all information and error messages.</p> <p>ERROR: Trace error messages only.</p> <p><b>Possible values:</b> DEBUG / ERROR</p>
loadInSeparateProcess	<p>Unchangeable attribute.</p> <p><b>Value:</b> TRUE</p>
mouseClicked	<p>Whether to enable the mouseClicked event on fields and tables in the verification view in indexing mode.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
pathToProjectExe	<p>The location of the PIC Designer program Brainware.System.Project.exe. In typical installations, it is not required to modify this value.</p> <p><b>Default value:</b> C:\Program Files (x86)\Lexmark\Perceptive Intelligent Capture\Perceptive Intelligent Capture\Bin\</p> <p><b>Possible values:</b> A valid non-UNC path ending with a “\”.</p>
ReinitScriptEngineAfterScriptErrors	<p>Whether to recover the script engine after a script error in PIC Web Verifier.</p> <p><b>Default value:</b> TRUE</p> <p><b>Possible values:</b> TRUE / FALSE</p>

Option	Description
remoteObjectRenewalTimeout	<p>Defines, in seconds, the time to lapse before renewing remote object references. The lower the number the faster unused objects free memory. Increase this value in the event of errors caused by long-running commands, such as field validation.</p> <p>You must also set this value in the Brainware.System.Project.exe.config file.</p> <p><b>Default value:</b> 60</p> <p><b>Possible values:</b> Any valid integer more than or equal to 30</p>
SavePageImageToDatabase	<p>Specifies if page images extracted from document file blobs needs to be saved back to the database.</p> <p><b>Possible values:</b> TRUE / FALSE</p>
sessionState timeout	<p>Defines, in minutes, the amount of time a user can be inactive before the session ends.</p> <p>Specify a value less than that of the SSO session. For details, refer to the product documentation of your SSO provider.</p> <p><b>Default value:</b> 20</p> <p><b>Possible values:</b> Any valid integer</p>
ShowExtendedErrorMessages	<p>Whether to enable stack trace information for PIC Web Verifier error messages.</p> <p>Error messages display in the trace log file.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
slogan	<p>A text message that displays on the PIC Web Verifier browser header, such as corporate messages, announcements, or the corporate slogan.</p> <p><b>Default value:</b> An empty string.</p> <p><b>Example</b></p> <pre data-bbox="654 1528 1227 1598">&lt;verifier.webclient&gt;   &lt;company slogan="This is a slogan" /&gt;</pre>

Option	Description
SYSTEM_LONG_DATE_FORMAT	<p>The XML key available in each <b>Brainware.Verifier.WebClient.resx</b> file located in <i>[Installation path]\Perceptive Intelligent Capture Web Server\Bin\Resources\[language code]</i>.</p> <p>The key contains the date pattern for the last access date column in the batch list for the respective language.</p> <p>To use the default system date pattern, leave the value element empty. The time format uses a 24-hour clock.</p> <p>For Traditional and Simplified Chinese, use the date format in the following example without any Chinese characters.</p> <p><b>Example for Chinese</b></p> <pre>&lt;data name="SYSTEM_LONG_DATE_FORMAT" xml:space="preserve"&gt;   &lt;value&gt;yyyy-MM-dd, hh:mm:ss&lt;/value&gt; &lt;/data&gt;</pre>
transactionIdColumn	<p>Whether the transaction ID batch column displays in PIC Web Verifier.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
transactionTypeColumn	<p>Whether the transaction type batch column displays in PIC Web Verifier.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
tabPressed	<p>Whether to enable the tabPressed event on fields and tables in the verification view in indexing mode.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
tableCellSelected	<p>Whether to enable the tableCellSelected event.</p> <p><b>Default value:</b> FALSE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
usePath	<p>True: Use the pathToProjectExe parameter.</p> <p>False: Use the current directory instead of the pathToProjectExe parameter.</p> <p><b>Default value:</b> TRUE</p> <p><b>Possible values:</b> TRUE / FALSE</p>
waitLoadTimeOut	<p>Defines the timeout for the initial loading of the project.exe</p>

## About navigation to documents for indexing

Indexable documents are documents with states from enabled workflow input states. The Web.config option AllowAccessToDocumentsToIndexOnly and the Web Verifier option “Disable navigation to valid documents” control the navigation to indexable documents.

### Example

- Workflow settings: 550 -> 700
- A batch includes documents with states 550, 600, and 700.

If you set AllowAccessToDocumentsToIndexOnly to True and activate the "Disable navigation to valid documents" option in Web Verifier, you cannot access documents with state 600 or 700.

## Enable navigation to indexable documents

To enable navigation to indexable documents only, complete the following steps.

1. From the **[Installation path]Perceptive Intelligent Capture Web Server** directory, open **Web.config** in a text editor.
2. Search for <appSettings>.
3. Add the following line.  
`<add key="AllowAccessToDocumentsToIndexOnly" value="true" />`
4. Save and close the file.
5. In Web Verifier, activate the **Disable navigation to valid documents** option.



## Registry options

You can create or modify the following keys in the Windows registry to enable, disable, or customize features.

### **ErrorTraceDir**

Provides the possibility to change the component log file location. The setting does not affect the core product log file location.

### **HideBatchReleaseDialog**

Allows you to enable or disable the Batch Release dialog box within the PIC Verifier, where the workflow does not require prompting users to the next task. The registry value determines the next action carried out by users.

The default action of the Batch Release dialog box is to verify the next invalid batch. When PIC suppresses the dialog, this value is maintained. To change to a different action, use the Batch Release dialog box once, then change the setting accordingly and click OK.

The default value is 0.

### **ErrorTrace - All**

Defines the trace level.

The default value is 1.

### **MaximumDiskSpaceUsageMB**

Defines the disk space in MB allocated for component level logs.

### **TotalDaysToKeepFiles**

Defines the number of days the PIC server retains the component log files.

## Create the registry key ErrorTraceDir

To create the registry key, complete the following steps.

1. Start the Windows registry editor.
2. Complete one of the following substeps.
  - For a 32-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Lexmark>ErrorTrace]**.
  - For a 64-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\Lexmark>ErrorTrace]**.
3. In the right pane, right-click and then click **New > String Value**.
4. In the **Name** field, type **ErrorTraceDir** and then click **OK**.
5. Right-click the **ErrorTraceDir** key and then click **Modify**.
6. In the **Edit String** dialog box, in the **Value data** field, type the path and then click **OK**.  
**Note** The path must exist and the service account / user needs write permission to the path.
7. Restart all PIC applications and services.

## Create the registry key HideBatchReleaseDialog

To create the registry key, complete the following steps.

1. Start the Windows registry editor.
2. Complete one of the following substeps.
  - For a 32-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Lexmark\Cedar]**.
  - For a 64-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\Lexmark\Cedar]**.
3. In the right pane, right-click and then click **New > DWORD (32-bit) Value**.
4. In the Name field, type **HidebatchReleaseDialog** and then click **OK**.
5. Right-click the **HidebatchReleaseDialog** key and then click **Modify**.
6. In the **Edit DWORD (32-bit) Value** dialog box, in the **Value data** field, complete one of the following steps and then click **OK**.
  - To display the confirmation screen, type **0**.
  - To hide the confirmation screen, type **1**.
7. Restart all PIC applications.

## Modify the registry key ErrorTrace - All

To modify the value, complete the following steps.

1. Start the Windows registry editor.
2. Complete one of the following substeps.
  - For a 32-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Lexmark>ErrorTrace]**.
  - For a 64-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\Lexmark>ErrorTrace]**.
3. In the right pane, right-click **All** and then click **Modify**.
4. In the **Edit DWORD (32-bit) Value** dialog box, in the **Value data** field, complete one of the following steps and then click **OK**.
  - To log only errors, type **1**.
  - To log only errors and warnings, type **2**.
  - To log only errors, warnings, and information, type **3**.

## Create the registry key **MaximumDiskSpaceUsageMB**

To create the registry key, complete the following steps.

1. Start the Windows registry editor.
2. Complete one of the following substeps.
  - For a 32-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Lexmark\ErrorTrace]**.
  - For a 64-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\Lexmark\ErrorTrace]**.
3. In the right pane, right-click and then click **New > DWORD (32-bit) Value**.
4. In the Name field, type **MaximumDiskSpaceUsageMB**.
5. Right-click the **MaximumDiskSpaceUsageMB** key and then click **Modify**.
6. In the **Edit DWORD (32-bit) Value** dialog box, in the **Value data** field, complete one of the following steps and then click **OK**.
  - To deactivate the option, type **0**.
  - Type the appropriate value in megabyte.

## Create the registry key **TotalDaysToKeepFiles**

To create the registry key, complete the following steps.

1. Start the Windows registry editor.
2. Complete one of the following substeps.
  - For a 32-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Lexmark\ErrorTrace]**.
  - For a 64-bit machine, navigate to **[HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\Lexmark\ErrorTrace]**.
3. In the right pane, right-click and click **New > DWORD (32-bit) Value**.
4. In the **Name** field, type **TotalDaysToKeepFiles**.
5. Right-click the **TotalDaysToKeepFiles** key and click **Modify**.
6. In the **Edit DWORD (32-bit) Value** dialog box, in the **Value data** field, complete one of the following steps and then click **OK**.
  - To deactivate the option, type **0**.
  - Type the number of days.