



Kofax PSIsafe Desktop API Installation Guide

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KOFAX

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Preface

This guide provides instructions for administrators who are responsible for deploying the Kofax PSIsafe API.

System requirements

The primary source of information about system requirements is the *Technical Specifications* document, which is available on the [Kofax PSIsafe Product Documentation site](#). The document is updated regularly, and we recommend that you review it carefully to ensure success while working with your Kofax PSIsafe product.


Product documentation

The documentation set for Kofax PSIsafe is available here:

<https://docshield.kofax.com/Portal/Products/PSIsafe/12.2.0-tqza8tn68d/PSIsafe.htm>

The full set of Kofax PSIsafe documentation includes:

- [Kofax PSIsafe Release Notes](#)
- [Kofax PSIsafe Technical Specifications](#)
- [Kofax PSIsafe Installation Guide](#)
- [Kofax PSIsafe User Help](#)
- [Kofax PSIsafe Administrator Help](#)

 If the security policy for your organization restricts Internet access or the Internet connection is not stable, you can access the documentation in [offline mode](#) while using Kofax PSIsafe products.

Offline mode

To make the documentation available for use in offline mode, obtain the following file from the Kofax PSIsafe API product package that you downloaded from the [Kofax Fulfillment Site](#).

- KofaxPSIsafeAPIDocumentation_12.2.0_EN.zip

Copy the .zip file to your Kofax PSIsafe Desktop computer and extract the contents:

- `Print` folder: Includes the *Kofax PSIsafe API Installation Guide*.


Training

Kofax offers both classroom and online training to help you make the most of your product. To learn more about training courses and schedules, visit the [Kofax Education Portal](#) on the Kofax website.

Getting help with Kofax products

The [Kofax Knowledge Portal](#) repository contains articles that are updated on a regular basis to keep you informed about Kofax products. We encourage you to use the Knowledge Portal to obtain answers to your product questions.

To access the Kofax Knowledge Portal, go to <https://knowledge.kofax.com>.

 The Kofax Knowledge Portal is optimized for use with Google Chrome, Mozilla Firefox, or Microsoft Edge.

The Kofax Knowledge Portal provides:

- Powerful search capabilities to help you quickly locate the information you need.
Type your search terms or phrase into the **Search** box, and then click the search icon.
- Product information, configuration details and documentation, including release news.
To locate articles, go to the Knowledge Portal home page and select the applicable Solution Family for your product, or click the View All Products button.

From the Knowledge Portal home page, you can:

- Access the Kofax Community (for all customers).
On the Resources menu, click the **Community** link.
- Access the Kofax Customer Portal (for eligible customers).
Go to the [Support Portal Information](#) page and click **Log in to the Customer Portal**.
- Access the Kofax Partner Portal (for eligible partners).
Go to the [Support Portal Information](#) page and click **Log in to the Partner Portal**.
- Access Kofax support commitments, lifecycle policies, electronic fulfillment details, and self-service tools.
Go to the [Support Details](#) page and select the appropriate article.

Install PSISafe API

The Kofax PSISafe API and Server work together to ensure that your PSISafe database can be accessed by PSISafe Web, Kofax PSICapture products, as well as custom applications. Additionally, optional features via the Azure API Management Service can be implemented as needed. This approach allows applications with the data inside your PSISafe database, and also allows programmers to create custom applications to send and receive data suited to your unique business needs. The Kofax PSISafe API and Server deployment process is described in the following sections.

Prerequisites

Internet Information Services (IIS) and IIS Manager are required to host Kofax PSISafe API in IIS on your server. Note that **Server Roles** are referred to as **Windows Features** in Windows 10 and 11.

Web Server IIS - Server Roles

Common HTTP Features:

- Default Document
- Static Content

Health and Diagnostics:

- HTTP Logging
- Request Monitor

Performance Features:

- Static Content Compression

Security:

- Request Filtering
- Windows Authentication

Application Development Features:

- .NET Extensibility 4.7

- ASP.NET 4.7
- ISAPI Extensions
- ISAPI Filters
- WebSocket Protocol

Management Tools:

- IIS 6 Management Console or later
- Management Service
- PSISafe 32-bit Server version 12.2.0.0.1160 or later
- PSISafe Desktop Client and Manager version 12.2.0.0.1160 or later
- ASP.NET Core 3.1 Runtime (v3.1.32 or later) (ASP.NET Core 3.1 Hosting Bundle)



- The Kofax PSISafe API and Server run independently of the PSISafe Desktop Client and 32-bit Server. However, they are required when setting up a PSISafe Desktop database and to run PSISafe Management for registration and management.
- If you are developing an application using the PSISafe API, you must install the .NET Core Framework 4.7 or later.
- Make sure that you install IIS **before** the Hosting Bundle. If not, you will encounter a 500.19 Internal Server error when trying to run the PSISafe API website. To resolve this issue, reinstall the Hosting Bundle.

SQL database upgrade script

The file PSISafeAPIDatabaseUpdates.SQL is included with the ZIP installation package for PSISafe API installations. Run this database upgrade script for the PSISafe database in SSMS using the steps below.

1. Open SQL Server Management Studio (SSMS) and navigate to the PSISafe Database, by default named **CNG_Main**.
2. Extract and open the folder KofaxPSISafeAPI-12.2.x.x.ZIP.
3. Double-click **PSISafeAPIDatabaseUpdates.sql** to open the Query in SSMS.
4. Click the Execute button in SSMS to execute the Query and run the update script.
5. Ensure that SSMS successfully completes the execution of the script and returns the statement "Commands completed successfully."

API Server and Service deployment

Use this procedure to deploy the Kofax PSISafe API server and service.

1. Create the following folder:

```
C:\Program Files\PSIsafe\PSIsafeAPIServer
```

2. Extract the contents of the ZIP file for the PSIsafe API Server previously downloaded. If you need to acquire a download package, contact [Kofax Support](#).
3. Move the contents of the `server` folder to:

```
C:\Program Files\PSIsafe\PSIsafeAPIServer
```
4. If you have registered PSIsafe Desktop:
 - a. Copy `CNGDBList.XML` from: `C:\Program Files (x86)\CNG\CNGServer`
 - b. Paste `CNGDBList.XML` to: `C:\Program Files\PSIsafe\PSIsafeAPIServer`
5. Open a Command Prompt window with Administrator privileges and run **install.bat**, which is available here:

```
C:\Program Files\PSIsafe\PSIsafeAPIServer\scripts
```
6. Open Windows Services and verify that you see an entry for **PSIGEN Affinity Server**.
7. Ensure that the service is running and that **Startup Type** is set to **Automatic**.

Remove service

If you need to remove the service, follow this procedure.

1. Start PowerShell V6 or later with the command below:

```
Remove-Service -Name "PSIGEN Affinity Server"
```
2. If you have PowerShell V5:
 - a. Open Windows PowerShell ISE.
 - b. Paste the following two lines:

```
$service = Get-WmiObject -Class Win32_Service -Filter "Name='PSIGEN  
Affinity Server'"  
$service.delete()
```
3. Run the script by pressing **F5** or the **Play** button.
4. Open a Command Prompt window with Administrator privileges and run the following command:

```
sc delete "PSIGEN.Affinity.Service"
```


Kofax PSIsafe API deployment

Use this procedure to deploy the Kofax PSIsafe API Server / Service.

1. Extract the contents of `api.zip` to a folder path such as:

```
C:\Program Files\PSIsafe\PSIsafeAPI
```
2. Open **IIS**.
3. Right-click **Application Pools** and add a new App pool.
Suggested name: `PSIsafeAPI`
4. Right-click on **Sites** in the left-hand panel and select **Add Website**.
 - Administrators may wish to name the site `PSIsafeAPI`.
 - The website files are available from the files extracted in step 1.

5. Assign the Application Pool to the website/application.

 Make sure the Kofax PSIsafe API website is using an HTTPS type binding. Additionally, if the Administrator does not have access to an SSL Certificate, it may need to be purchased.

Add Write permissions to applog folder in API

1. Open **IIS Manager**.
2. Locate the `applog` folder for Kofax PSIsafe API.
3. Right-click and select **Edit Permissions**.
Open the **Security** tab, select **Edit**, and click **Add**.
4. Key in "iis apppool\psisafeapi" (where psisafeapi is the name of the app pool used for Kofax PSIsafe API).
5. Click **Check Names**, and then click **OK**.

Test your server and API deployment

Use this procedure to test your Kofax PSIsafe API server and service deployment.

1. In **IIS Manager** under **Default Web Site**, select your PSIsafeAPI Web Site (Production) or PSIsafeAPI Application.
2. On the right side of **IIS Manager**, select **Browse**.
3. Append **/API** to the URL in the browser.
Example with SSL certificate: `https://localhost:443/api`
Example without SSL certificate: `http://localhost/psisafeapi/api`
4. Verify that the API name and version is returned on the page.
 - Administrators may wish to name the site PSIsafeAPI.
 - The website files are available from the files extracted in step 1 of [Kofax PSIsafe API deployment](#).
5. Test that the API can connect to your PSIsafe Database by appending the following to the URL:
`/databases?customercode=default`
A screen should display a list of PSIsafe Desktop databases visible to the Kofax PSIsafe API. If not, confirm that you successfully completed the step for copying CNGDBList.XML, as described in [API Server and Service deployment](#).

Test the Kofax PSIsafe API and Server communication

Use IIS Manager to confirm successful configuration and deployment.

1. Open **IIS Manager**.
2. Select your Kofax PSIsafe API website (or application under Default Web Site).
3. In **IIS Manager**, select **Browse** in the **Actions** panel.

i Your configuration may be different, based on where you deployed the Kofax PSIsafe API and whether you have a certificate configured.

4. Add **/API** to the URL in the web browser and test the link to confirm the Kofax PSIsafe API version number.

To confirm that the API can connect to your PSIsafe SQL database, append the following to the URL:

```
/databases?customercode=default
```

The URL will connect to the PSIsafe SQL database and return one or more database names (as configured in PSIsafe Management).

Kofax PSIsafe SignalR service deployment

The Kofax PSIsafe SignalR service ensures that user licenses are released in cases where a user closes the browser without logging out.

To deploy the Kofax PSIsafe SignalR service:

1. Copy the contents of the **signalr** folder included with the installation package to a folder path such as:
C:\Program Files\PSIsafe\PSIsafeSignalR
2. Open the file **appsettings.json** in a text editor such as Notepad.
3. Set **Client Origins** URL to point to the network path or URL of the workstation where PSIsafe Web is deployed.
4. Set **AffinityAPIHost** URL to point to the network path or URL where the PSIsafe API is deployed.
5. Open IIS, right-click **Application Pools**, and select **Add Application Pool**.
To avoid confusion with any existing entries, we recommend naming this application pool **PSIsafeSignalR**.
6. Right-click **Sites** in the left-hand panel and select **Add Website**.
The **Add Website** dialog window appears.
7. In the **Site Name** field, enter **PSIsafeSignalR**.
8. In the **Physical Path** field, enter the same folder path to which you copied the contents of the **signalr** folder from step 1.
9. For the **Application Pool** field, click **Select** and select the application pool created in step 5.

Test the Kofax PSIsafe SignalR service

1. In the address bar of your web browser, type the PSIsafeSignalR website address with **/signalr** appended to the end.
For example: `http://localhost/psisafesignalr/signalr`
You can also select **Browse** within IIS under the PSIsafeSignalR website and append **/signalr** manually.
2. Verify that when the installation is completed successfully, the webpage displays the Kofax PSIsafe SignalR version, such as "Kofax PSIsafe SignalR x.x.x."

Upgrade existing API installation

This topic describes the process of upgrading an existing API installation, assuming that the API resides on the same server as the PSISafe Desktop database.

1. Download the updated PSISafe Desktop API files.
2. Right-click the downloaded .zip file and select **Properties**.
3. Select the **Unblock** check box.
4. Click **OK**.

Update database

i This step is required only if you update PSISafe Desktop API version 1.0.18 from PSISafe Desktop API version 1.0.15.x or earlier. If the current PSISafe Desktop API version is 1.0.18 or higher, a database update is not required.

1. Log in to the server where the PSISafe Desktop database is located (or any system where SSMS can connect to the database server).
2. From the Start Menu, start **SQL Server Management Studio (SSMS)**.
3. Log in to the SQL Server instance containing the database.
4. From the SSMS File Menu, select **Open > File**.
5. Browse to the location containing the updated PSISafe Desktop API files.
6. From the db folder, select **PSISafeAPIDatabaseUpdates.sql**.
7. After the query has been loaded in SSMS, select **Execute**.

Stop services and IIS

1. From the Start Menu, start **Services.msc**.
2. Select and right-click **PSIGEN Affinity Server**.
Select **Stop** from the list.
3. From the Start Menu, start Internet Information Services (IIS).
4. Open the server name on the left, then open **Sites**.
5. Select **Default Web Site**.
6. In the **Actions** panel on the right, select **Stop**.

Update server folder

1. In File Explorer, navigate to `C:\Program Files\PSISafe`.
2. Create a copy of the current PSISafeAPIServer folder (for backup purposes).
Name the copy "PSISafeAPIServer - <current version>".
3. Open the current PSISafeAPIServer folder.
4. Delete all files and folders except for the "logs" folder from `C:\Program Files\PSISafe\PSISafeAPIServer`.

5. Copy all files and folders from the new folder.
6. Paste all copied files and folders into `C:\Program Files\PSISafe\PSISafeAPIServer`.

Update API folder

1. In File Explorer, navigate to `C:\Program Files\PSISafeAPI` or your customized location and directory.
2. Create a copy of the current PSISafeAPI folder (for backup purposes). Name the copy "PSISafeAPI - <current version>".
3. Open the current PSISafeAPI folder.
4. Delete all files and folders in the current PSISafeAPI folder.
5. Copy all files and folders from the new API folder.
6. Paste all copied files and folders into `C:\Program Files\PSISafe\PSISafeAPI`.
7. Check the local settings in the previous version of the **appsettings.json** file, and restore them if necessary.

Deploy the SignalR service

The Kofax PSISafe SignalR service ensures that user licenses are released in cases where a user closes the browser without logging out. This step must be performed for any installations using version 12.2.0.2 or earlier.

To deploy the Kofax PSISafe SignalR service:

1. Copy the contents of the **signalr** folder included with the installation package to a folder path such as:
`C:\Program Files\PSISafe\PSISafeSignalR`
2. Open the file **appsettings.json** in a text editor such as Notepad.
3. Set **Client Origins** URL to point to the network path or URL of the workstation where PSISafe Web is deployed.
4. Set **AffinityAPIHost** URL to point to the network path or URL where the PSISafe API is deployed.
5. Open IIS, right-click **Application Pools**, and select **Add Application Pool**.
To avoid confusion with any existing entries, we recommend naming this application pool **PSISafeSignalR**.
6. Right-click **Sites** in the left-hand panel and select **Add Website**.
The **Add Website** dialog window appears.
7. In the **Site Name** field, enter **PSISafeSignalR**.
8. In the **Physical Path** field, enter the same folder path to which you copied the contents of the **signalr** folder from step 1.
9. For the **Application Pool** field, click **Select** and select the application pool created in step 5.

Start IIS and Services

1. From the Start Menu, open Internet Information Services (IIS).
2. Open the server on the left, then open **Sites**.
3. Select **Default Web Site**.

4. In the **Actions** panel on the right, select **Start**.
5. From the Start Menu, open **Services.msc**.
6. Select and right-click **PSIGEN Affinity Server**.
7. Select **Start** from the list.

Verify that API update is successful

1. From the Start Menu, open a browser.
2. In the address bar, enter **http://localhost/PSISafe/api**.
3. Verify that the version displayed reflects the version just installed, such as "Kofax PSISafe API x.x.x."

Test the Kofax PSISafe SignalR service

1. In the address bar of your web browser, type the PSISafeSignalR website address with **/signalr** appended to the end.
For example: `http://localhost/psisafesignalr/signalr`
You can also select **Browse** within IIS under the PSISafeSignalR website and append **/signalr** manually.
2. Verify that when the installation is completed successfully, the webpage displays the Kofax PSISafe SignalR version, such as "Kofax PSISafe SignalR x.x.x."

PSISafe Web and API Installation Troubleshooting

This section includes solutions for issues that may occur during the installation of PSISafe Web or PSISafe API.

Failed to load ASP.NET Core runtime

When testing the PSISafe API at example address:

`https://localhost/PSISafeAPI/api`

You may encounter an error like this:

Error: "HTTP Error 500.31 - Failed to load ASP.NET Core runtime"

Problem:

ASP.NET Core Hosting Bundle dependency is not installed.

Solution:

Install the ASP.NET Core 3.1.6 Hosting Bundle or later from the following link:

`https://dotnet.microsoft.com/en-us/download/dotnet/3.1`

No IPEndpoints were found for host localhost

An error occurs when testing if the PSISafe API can access PSISafe DB using a path similar to this:

```
https://localhost/PSISafeAPI/api/databases?customercode=default
```

You may encounter an error:

Error: "Error: No IPEndpoints were found for host localhost. For more details on error provide log ID to your Administrator.Log ID: 0" and in some cases "{"statusCode":500,"details":"No IPEndpoints were found for host localhost"

Problem:

PSISafe Server Service is not running.

Solution:

This error indicates that your PSISafe API Server Service (named **PSIGEN Affinity Server** in the Windows Services dialog) is not running.

1. Open the Windows Services Dialog.
2. Confirm that the PSISafe Desktop Server service is running.

We lost connection to the server

An error occurs when testing the PSISafe API at the example address:

```
https://localhost/PSISafeAPI/api
```

When logging in to PSISafe Web. A message is displayed at the top of the login page saying: "We lost connection to the server. Refresh browser to retry."

The error is displayed at the top of the screen:

Error: "We lost connection to the server. Refresh browser to retry."

Problem:

PSISafe Web cannot reach the PSISafe API endpoint. Typically, this can be caused by:

1. The PSISafe API Web Site is not running.
2. The PSISafeAPIURL is not set to the correct path in the file **appsettings.Production.json**.

Solution:

1. Start the PSISafe API web site in IIS.
2. Check the PSISafeAPIURL configuration in appsettings.Production.json:

```
[PSISafeWebInstallationFolder]/wwwroot/appsettings.production.json
```

Make sure that path does NOT end with **/api**. That path is used only to retrieve API version during testing.

Internal Server Error with Error Code: 0x8007000d

When trying to access PSIsafe Web. The browser displays an error:

Error: "HTTP Error 500.19 - Internal Server Error" and error code "0x8007000d"

Problem:

The pre-requisite **IIS URL Rewrite Module** is not installed.

Solution:

1. Install the IIS Rewrite Module from the following link:

<https://www.iis.net/downloads/microsoft/url-rewrite>

2. Restart IIS.

An unhandled error has occurred. Reload X

When trying to access PSIsafe Web, the browser displays the following error:

Error: "An unhandled error has occurred. Reload X"

Problem:

PSIsafe Web was deployed as sub-application under another web site (such as Default Web Site). This is currently not supported (as of version 12.2.0.1.0.358).

Solution:

Create a separate website in IIS for deployment of PSIsafe Web.

Object reference not set to instance of object

When trying to log into PSIsafe Web, the browser displays an error:

Error: "Object reference not set to instance of object"

Problem:

PSIsafe Web cannot connect to its SQL Database.

Solution:

1. Check that you have a **CNGDBList.xml** in the root folder where PSIsafe Server was installed. For a new deployment this file is copied from the PSIsafe 32-bit server after DB registration. Check that the file contains information for the databases you will be using.
2. If you are on a load balanced system with multiple PSIsafe Desktop Server instances, open **ServerAppSettings.xml** in the Config folder of the PSIsafe Desktop Server. The shared path to the file is defined with key ServerXMLFiles:

```
<add key="ServerXMLFiles" value="\\[PathToTheSharedLocation]" data-bbox="172 865 706 879"/>
```

Invalid object name 'FileDownloadSession'

When testing the PSISafe Web downloads, you may encounter an error that reads:

Error: "Invalid object name 'FileDownloadSession'".

Problem:

The SQL table **FileDownloadSession** is missing. The required **PSISafeDatabaseUpdates.SQL** script required for PSISafe API and PSISafe Web has not been executed on the database.

Solution:

Execute the PSISafe API script on the PSISafe Database in SSMS. The script is including in your installation package.

Error. Not Found.

When testing the PSISafe Web imports/uploads, you may encounter an error that reads:

Error: "Error. Not Found For more details on error provide your Log ID to your Administrator."

Problem:

The **PSISafeAPIURL** in **appsettings.Production.json** file contains "/" (front slash) at the end of API URL.

Solution:

- 1: Start the PSISafe API web site in IIS.
- 2: Check the **PSISafeAPIURL** configuration in **appsettings.Production.json**, for example:

```
[PSISafeWebInstallationFolder]/wwwroot/appsettings.production.json
```

Make sure that path does NOT end with a slash/.

'blazorInterop.DownloadFile'

When testing the PSISafe Web downloads, you may encounter an error that reads:

Error: "blazorInterop.DownloadFile: Could not get the requested file on the API".

Problem:

This can happen on deployments where the API is load balanced using multiple servers. If load balanced, then the **AffinityTempFilesLocation** needs to be set to a shared location that all API server instances share. See **appsettings.json** where API is installed.

Solution:

In the **appsettings.json** for the PSISafe API. Make sure that **AffinityTempFilesLocation** is pointing to a share that all PSISafe API instances write to.

Arg_NullReferenceException

When testing the PSIsafe Web imports/uploads, you may encounter an error that reads:

Error: "Arg_NullReferenceException".

Problem:

The SQL table **FileUploadSessions** and/or **FileUploadParts** are missing. The required **PSIsafeDatabaseUpdates.SQL** script required for PSIsafe API and PSIsafe Web has not been executed on the database.

Solution:

Execute the PSIsafe API script on the PSIsafe Database in SSMS. The script is including in your installation package.

LEADTOOLS License Notice

When testing the PSIsafe Web document preview module, you may encounter an error that reads:

Error: "LEADTOOLS License Notice. License file is not verified to work in this domain"

Problem:

Due to third party licensing restrictions, the customized URL of PSIsafe Web on-premise installations must contain the word "psisafe" somewhere within the URL string. For example:

`psisafe.[DOMAIN].[TOP-LEVEL-DOMAIN]` (e.g., `psisafe.customerdomain.com`)

Solution:

Modify the URL for PSIsafe Web in IIS to contain the word "psisafe" within the string.