

# Kofax RPA

## Desktop Automation Service Configuration Guide

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The KOFAX logo is displayed in a bold, blue, sans-serif font. The letters are thick and closely spaced, with a consistent weight throughout the word.

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# Preface

This guide describes how to configure the Desktop Automation Service required to use Desktop Automation on a remote computer.

## Related Documentation

The documentation set for Kofax RPA is available here:<sup>1</sup>

[https://docshield.kofax.com/Portal/Products/RPA/10.7.0\\_oc6xl3vcnp/RPA.htm](https://docshield.kofax.com/Portal/Products/RPA/10.7.0_oc6xl3vcnp/RPA.htm)

In addition to this guide, the documentation set includes the following items:

***Kofax RPA Release Notes***

Contains late-breaking details and other information that is not available in your other Kofax RPA documentation.

***Kofax RPA Installation Guide***

Contains instructions on installing Kofax RPA and its components in a development environment.

***Kofax RPA Administrator's Guide***

Describes administrative and management tasks in Kofax RPA.

***Help for Kofax RPA***

Describes how to use Kofax RPA. The Help is also available in PDF format and known as *Kofax RPA User's Guide*.

***Kofax RPA Getting Started with Desktop Automation Guide***

Provides a tutorial that walks you through the process of using Kofax RPA Desktop Automation to build a robot.

***Kofax RPA Getting Started with Document Transformation Guide***

Provides a tutorial that explains how to use Document Transformation functionality in a Kofax RPA environment, including OCR, extraction, field formatting, and validation.

***Kofax RPA Developer's Guide***

Contains information on the API that is used to execute robots on RoboServer.

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<sup>1</sup> You must be connected to the Internet to access the full documentation set online. For access without an Internet connection, see the *Installation Guide*.

### ***Kofax RPA Application Programming Interface documentation***

Contains information about the Kofax RPA Java API and the Kofax RPA .NET API, which provide programmatic access to the Kofax RPA product. The Java API documentation is available from both the online and offline Kofax RPA documentation, while the .NET API documentation is available only offline.

**Note** The Kofax RPA APIs include extensive references to RoboSuite, the original product name. The RoboSuite name is preserved in the APIs to ensure backward compatibility. In the context of the API documentation, the term RoboSuite has the same meaning as Kofax RPA.

## Training

Kofax offers both classroom and computer-based training to help you make the most of your Kofax RPA solution. Visit the Kofax website at [www.kofax.com](http://www.kofax.com) for details about the available training options and schedules.

## Getting help with Kofax products

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

To access the Kofax Knowledge Base, go to the [Kofax website](#) and select **Support** on the home page.

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

The Kofax Knowledge Base 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.  
Scroll through the Kofax Knowledge Base home page to locate a product family. Then click a product family name to view a list of related articles. Please note that some product families require a valid Kofax Portal login to view related articles.
- Access to the Kofax Customer Portal (for eligible customers).  
Click the **Customer Support** link at the top of the page, and then click **Log in to the Customer Portal**.
- Access to the Kofax Partner Portal (for eligible partners).  
Click the **Partner Support** link at the top of the page, and then click **Log in to the Partner Portal**.
- Access to Kofax support commitments, lifecycle policies, electronic fulfillment details, and self-service tools.  
Scroll to the **General Support** section, click **Support Details**, and then select the appropriate tab.

## Chapter 1

# Desktop Automation Service Configuration

## Desktop Automation Prerequisites






All Desktop Automation requirements and prerequisites are listed in the "Dependencies and Prerequisites" chapter of the Kofax RPA *Installation Guide*.

**Note** Desktop Automation service relies on Windows UI Automation API. Do not run any UI Automation API clients on the same computer simultaneously with Desktop Automation Agent.

## Configure the Desktop Automation Service

Once your computers meet all the necessary requirements for Desktop Automation, you can install and configure the Desktop Automation Agent.

1. If you need to automate Java applications, install Java 32-bit (JRE or JDK) on remote devices and check that the Java Access Bridge is enabled on your devices. See [Check Java Access Bridge](#) for details.
2. Download and run the Kofax RPA Desktop Automation installer on your device.
3. Start the Desktop Automation Service from the Start menu. Once the service starts, you can see its status by looking at the icon in the notification area.

Icon	Status
	Desktop Automation Service is starting and trying to connect to the configured Management Console.
	Desktop Automation Service is running and either connected to a Management Console or running in single user mode depending on configuration.
	Desktop Automation Service is running and in use by RoboServer or Design Studio.
	Desktop Automation Service is not running.
	Desktop Automation Service is not running due to an error.

4. To edit the Desktop Automation Service parameters, right-click the Desktop Automation Service icon in the notification area and select **Configure**. This opens the Desktop Automation Service window. After changing the options, click **Save and Restart**.

To manually edit the options, open the `server.conf` file on your automation device. The file is located in Users > UserName > AppData > Local > Kofax RPA 10.7.0 folder where UserName is the name of the user the service is running under.

See the table with Desktop Automation Service options below.

5. Check that the device is registered in the Management Console under **Admin > Devices** tab.

The following is a Desktop Automation Service configuration window.

The screenshot shows the Desktop Automation Service configuration window. It includes the following fields and options:

- Host name: localhost
- Command port: 49998
- Stream port: 49999
- CA file: (empty)
- Timeout: 60
- Single User
- Management Console (selected tab), Single User, Certificates, Windows, OCR, System
- MC Path: http://192.168.0.1:50080
- User name: (empty)
- Password: (empty)
- Cluster: Production
- Labels: WindowsLocal
- Ping interval (ms): 5000
- Use proxy to connect to Management Console
- Proxy host name: (empty)
- Proxy host port: 0
- Proxy user name: (empty)
- Proxy password: (empty)
- Buttons: Help, Cancel, Save and Restart

The following table lists the available Desktop Automation Agent options.

Configuration Window Option	server.conf Option	Value and Description
<b>Single User</b> Clear (default) Select for direct connection to the Automation Device from Design Studio or when using the RDP connection.	"singleUser"	false (default) true Set to false to automatically register the Desktop Automation Agent with the specified Management Console. For direct connection to the Automation Device, set to true and specify a token.*
<b>Host name</b>	"hostName"	Name or IP address of the computer running the Desktop Automation Agent. If a computer has multiple names or IP addresses, specify the one that RoboServers and Design Studio contact this Desktop Automation Agent with. That is, the host name or IP address must be reachable from RoboServers and Design Studio.
<b>Command port</b>	"commandPort"	49998 (default) Reassign this port for the Automation Device if necessary.
<b>Stream port</b>	"streamPort"	49999 (default) This port is used to send data between Design Studio and the Desktop Automation Agent. If streamPort is set to "0", the Desktop Automation Agent selects a random port number. You might need to assign the streamPort if there is a firewall between Design Studio and the Automation Device.
<b>CA file</b>	"caFile"	empty (default) You can communicate with the Management Console using SSL. If the default certificate in node.js is not used, you can specify a path to another certificate file using this parameter. Note that you need to have a root certificate for this to work. To save a root certificate in a file from a Google Chrome browser, do the following. <ol style="list-style-type: none"> <li>1. Right-click the lock icon in the address bar, and click <b>Certificate (valid)</b>.</li> <li>2. On the <b>Certificate Path</b> tab, select the top most (root) certificate, and click <b>View Certificate</b>.</li> <li>3. On the <b>Details</b> tab, click <b>Copy to File</b>, then complete the wizard to export the root certificate as a base-64 encode X.509 certificate.</li> </ol> Now you can specify the path to the file with exported certificate.



Configuration Window Option	server.conf Option	Value and Description
<b>Timeout</b>	"commandTimeout"	<p>This option specifies the timeout for command execution in seconds. A command is an instruction sent to the Automation Device, such as <i>click mouse button</i>, <i>open application</i>, <i>add a location found guard</i>, and so forth. If a command cannot be completed in a specified time, the service sends a notification and execution of the robot stops.</p> <p>Note that in case of a Location Found guard, this setting applies to invoking the guard in the workflow, but waiting for the guard to be satisfied is not bound to this timeout and can wait forever. A similar situation occurs when using the Move Mouse and Extract steps. The commands must be invoked on the device with the timeout specified in this field, but the robot waits for up to 240 seconds for the commands to complete.</p> <p>The command timeout for automating terminals or browsing websites in Desktop Automation Workflow is set either on the <b>Desktop Automation</b> tab of the Design Studio Settings window for executing the workflow in Design Studio, or in the <b>Desktop Automation</b> section on the <b>Security</b> tab of the <b>RoboServer Settings</b> window for roboserver execution.</p>
<b>Token on Single User tab</b>	"token"	<p>empty (default)</p> <p>If the "singleUser" option is set to <i>false</i>, leave this option empty. If you use the direct connection to the Automation Device ("singleUser": <i>true</i>), specify a token. It can be any token you define.</p>

Configuration Window Option	server.conf Option	Value and Description
<p><b>Certificates tab</b></p> <p>Remote hub</p> <p>Private Key File <input type="text" value="kapowremote.das.pem"/></p> <p>Public Key File <input type="text" value="kapowremote.das.cert.pem"/></p> <p>Folder with own CA files <input type="text" value="/serverCa"/></p> <p>Local hub</p> <p>Private Key File <input type="text" value="kapow.local.das.pem"/></p> <p>Public Key File <input type="text" value="kapow.local.das.cert.pem"/></p>	<p>"tlsServerConfig"</p>	<p>Kofax RPA provides TLS communication between the Automation Device and the RoboServer or Design Studio. The communication uses certificates for encrypting the communication. The following is a <code>server.conf</code> file code extract. For more information, see "Use TLS Communication" in the Kofax RPA help.</p> <pre> "tlsServerConfig": {   "key": "kapow.remote.das.pem",   "cert": "kapow.remote.das.cert.pem",   "ca": "./serverCa" },                     </pre>
<p><b>Windows tab</b></p>	<p>"automationnative"</p>	<ul style="list-style-type: none"> <li>• "useLegacy" <p>In some situations, the Java Access Bridge does not work and it can help to switch to legacy mode. Default is <code>false</code>.</p> </li> <li>• Installed packages <p>Lists Desktop Automation Service packages installed on this computer. Starting from version 10.7, new version packages are installed automatically if the <b>Lock package</b> option below is not selected. The packages in ZIP files are installed to <code>C:\ProgramData\Kofax RPA</code> on the automated computer. The appropriate package is selected automatically depending on the RoboServer version. If you want to specify only one version package to be used, select <b>Lock package</b> and select one of the installed packages.</p> </li> <li>• Lock package <p>When selected you can choose a version package as the only one to work with. A RoboServer with a different version cannot connect to this service. Default: the option is clear or <code>false</code> in the <code>server.conf</code> file.</p> <p>Select this option or change the setting to <code>true</code> in the <code>server.conf</code> file to run robots with triggers.</p> </li> <li>• Map RFS share to drive letter <p>The Windows drive that the Robot File System file share is available in. When the file share is mapped to a Windows drive, other Windows applications can also access this file share.</p> </li> </ul>

Configuration Window Option	server.conf Option	Value and Description
<b>OCR</b>	"ocrConfig"	"defaultLanguage": "eng" Specifies a language to perform an OCR operation. By default, Kofax RPA installs the English language. See <a href="#">Change Default OCR Language</a> below for language installation instructions.
<p><b>System tab</b></p> <p>Use this tab to open and examine the log file for any errors, or to view the version and location of the service file. Using this tab, you can check whether Java Access Bridge is properly installed on the computer where the service is running. See <a href="#">Check Java Access Bridge</a> for details.</p>		
Management Console Options		
<p><b>MC Path</b></p> <p>Connection protocol, name or IP address, port number, and path of the Management Console the device must register with. The format is as follows: http://10.10.0.136:50080.</p>	"hostName"	Name or IP address of the Management Console the device must register with.
	"port"	Connection port of the specified Management Console.
	"schema"	Connection protocol of the specified Management Console.
	"path"	empty (default) The part of the path to the standalone Management Console after the port number. For example, if your Management Console is deployed on Tomcat at http://computer.domain.com:8080/ManagementConsole/, specify "/ManagementConsole/" in this parameter. Leave this parameter empty for the embedded Management Console installation.
<b>User name</b>	"user"	empty (default) User name to authenticate on the specified Management Console.
<b>Password</b>	"password"	empty (default) Password to authenticate on the specified Management Console.
<b>Cluster</b>	"cluster"	Production (default) Cluster name on the specified Management Console.
<b>Labels</b>	"labels"	"label1,label2" (default) Labels to distinguish the automation devices.
<b>Ping interval (ms)</b>	"pingInterval"	5000 (default) Time interval for the Desktop Automation Service to ping the Management Console.

Configuration Window Option	server.conf Option	Value and Description
<b>Use proxy to connect to Management Console</b>	"useProxy"	<p>Select this option for the Desktop Automation Service to use proxy when connecting to Management Console. All necessary parameters are specified in the following fields.</p> <p><input checked="" type="checkbox"/> Use proxy to connect to Management Console</p> <p>Proxy host name <input type="text" value="proxyhost.com"/></p> <p>Proxy host port <input type="text" value="9000"/></p> <p>Proxy user name <input type="text" value="username"/></p> <p>Proxy password <input type="password" value="●●●"/></p> <p>Under Linux, you can set up proxy parameters in the <code>managementConsole</code> section of the <code>server.conf</code> file.</p> <pre>"useProxy": true, "proxyHostName": "proxyhost.com", "proxyPort": 9000, "proxyUserName": "username", "proxyPassword": "pwd"</pre>

\* The direct connection to the Automation Device is recommended only for creating and debugging a robot in Design Studio as well as for using with an RDP connection. See "Use RDP Connection" in Kofax RPA help.

## Logging for Desktop Automation Service

Kofax RPA collects usage information on specific Desktop Automation Service events, which may be useful to improve the service performance.

- If the Desktop Automation Service is connected to a Management Console, the events are stored in the RoboServer Log Database of the Management Console. To view the events, on the **Log View** tab, select **DAS**.

**Note** When the connection parameters for the Management Console are specified in the Desktop Automation Service configuration window, the events are always logged to the Management Console, even if the Single User mode is selected, that is, the connection to the Automation Desktop is established directly, without the Management Console.

- If the Desktop Automation Service cannot connect to a Management Console (as Management Console is not configured), it writes the events to the **Desktop Automation Service Usage.csv** log file, which resides in: `{path}\AppData\Local\Kofax RPA\<version number>\Logs\`  
The file location can be configured in the **log4net.xml** file.

The information for each event includes:

- Time that the event occurred (in UTC).
- Type of event: start, stop, connect, disconnect, suspend, or lock screen.

- Identification of Desktop Automation Service, consisting of an ID in the form `host:port`, the user account running the service, and the labels defined for the service.
- Name of the robot and the execution ID (only for connect and disconnect).
- Severity indication (always "Info").
- Message (always empty).

## Configure Proxy Servers in Desktop Automation

All Desktop Automation Service robots can use the Kofax RPA global proxy settings. The Desktop Automation Service uses the same proxy settings as Design Studio and Management Console. There are two ways to configure proxy server settings.

**Important** Remember that the local proxy settings of the built-in browser in Desktop Automation Service have a higher priority than the Kofax RPA global proxy settings. Make sure the robot uses the Kofax RPA global proxy settings, unless the task requires it to use local proxy settings. For more information on Desktop Automation, see the Kofax RPA online Help.

1. For all robots running in the Desktop Automation Service, in the Design Studio Settings dialog box, on the Proxy Servers tab, complete the following Proxy Server details.
  - Host
  - Port number
  - Username
  - Password
  - Excluded hosts
2. For all deployed robots, in Management Console > Cluster Settings> Proxy Servers tab, select Add Proxy Server and complete the following Proxy Server details.
  - Host name
  - Port number
  - User name
  - Password
  - Excluded host names

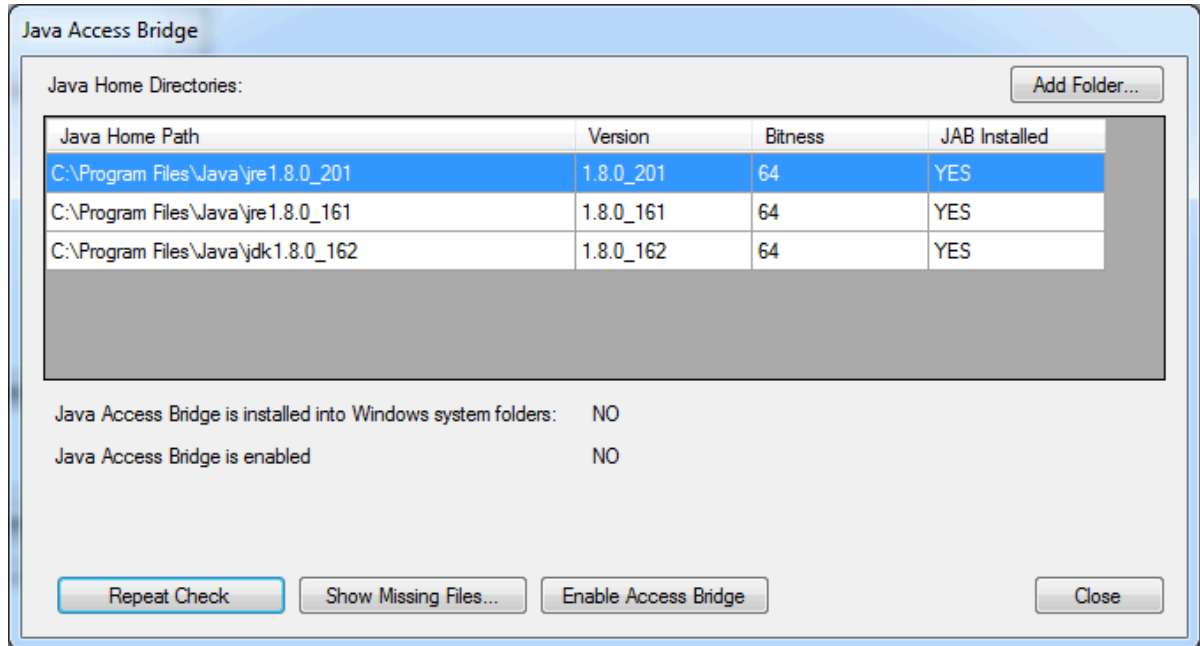
## Check Java Access Bridge

Java Access Bridge is an essential component to automate your Java applications. Depending on the Java version, some necessary files may be missing in system folders and Java Access Bridge may be disabled on the computer where the Desktop Automation Service is installed. To check your Java Access Bridge installation, perform the following steps.

1. Right-click the Desktop Automation icon in the notification area and select **Configure**.
2. Click the **System** tab and click **Check Java Access Bridge files**.

The **Java Access Bridge** dialog box opens showing installed Java versions and Java Access Bridge installation status for each version. If **JAB Installed** column, **Java Access Bridge is installed into**

**Windows system folders**, and **Java Access Bridge is enabled** show **YES**, Java Access Bridge is properly installed and enabled on the computer.



3. If your implementation of Java is not listed under **Java Home Directories**, click **Add Folder** and specify a home folder with installed Java files.
4. If any of the files are missing, such as **JAB Installed** column shows **NO**, click **Show Missing Files**. The **Java Access Bridge Missing Files** dialog box shows files that must be copied to specified folders. Click **Install Missing Files** to install the latest version of the Java Access Bridge files supplied by Kofax RPA in the Desktop Automation Service installation.
5. If **Java Access Bridge is enabled** shows **NO**, click **Enable Access Bridge**.

## Change Default OCR Language

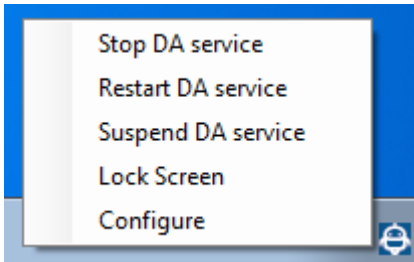
Kofax RPA uses the Tesseract OCR engine to capture text from images. By default, Kofax RPA installs the English language for OCR. When your robot performs text recognition in the Extract Text From Image Step, the Desktop Automation Service uses the language selected on the **OCR** tab of the Desktop Automation Service window. To change the default language for OCR, perform the following steps.

1. Download the `.traineddata` file for the required language from the <https://github.com/tesseract-ocr/tessdata>. For example, the file for the French language is `fra.traineddata`.
2. Copy the downloaded trained data file to `Kofax RPA\<version>\lib\tessdata` in the **ProgramData** folder. Example:  
C:\ProgramData\Kofax RPA\10.7.0\_110\lib\tessdata
3. Right-click the Desktop Automation icon in the notification area and select **Configure**.
4. Click the **OCR** tab and select a language in the **Default OCR language** list. Click **Save and Restart**.

You can train Tesseract to recognize your character set using either TTF fonts or UI screen shots. See the *Train Tesseract* topic in help for more information.

## Manage Remote Desktop

You can perform the following actions using the Desktop Automation Service shortcut menu.



## Manage the Desktop Automation Service

The following commands help you manage the Desktop Automation Service running on a remote computer.

- **Stop DA service:** Stops the service, which makes the remote device unavailable.
- **Restart DA service:** Stops and starts the service. A robot or Design Studio loses the connection to the device and must be reloaded to restore it.
- **Suspend DA service:** Suspends the device. If suspended, the service is displayed as suspended in the Management Console. To restore the service operation, a user or an administrator needs to manually start the Desktop Automation Service on the device.