Kofax Kapow

Device Automation Service User's Guide

Version: 10.3.1

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Chapter 1

Device Automation Service Configuration

Device Automation Prerequisites

All Device Automation requirements and prerequisites are listed in the System Requirements chapter of the Installation Guide.

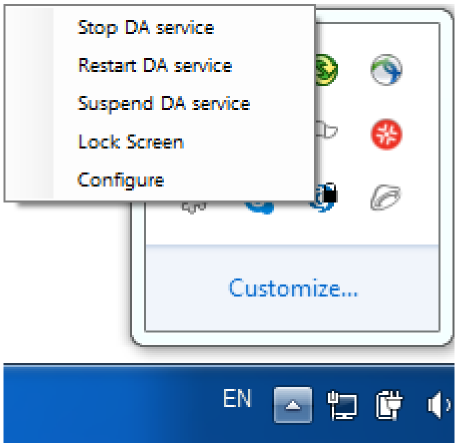
Configure the Device Automation Service

Once your computers meet all the necessary requirements for device automation, you can install and configure the Device Automation Service.

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.
2. Download and run the Kapow Device Automation installer on your device.
3. Start the Device 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
⟳	Device Automation Service is starting and trying to connect to the configured Management Console.
●	Device Automation Service is running and either connected to a Management Console or running in single user mode depending on configuration.
🔒	Device Automation Service is running and in use by RoboServer or Design Studio.
○	Device Automation Service is not running.
⚠	Device Automation Service is not running due to an error.

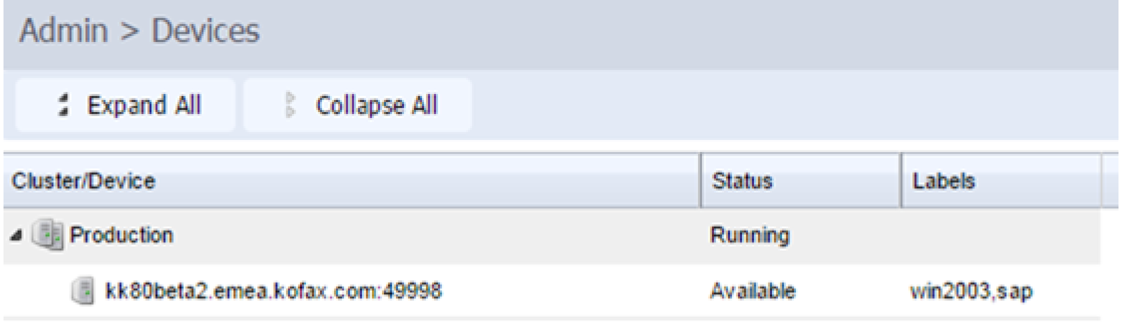
4. To edit the Device Automation Service parameters, right-click the Device Automation Service icon in the notification area and select **Configure**. This opens the Device Automation Service window. After changing the options, click **Save and Restart**.



To manually edit the options, open the `server.conf` file on your Automation Device. The file is located in Users > UserName > AppData > Local > Kapow 10.3.1 directory where UserName is the name of the user the service is running under.

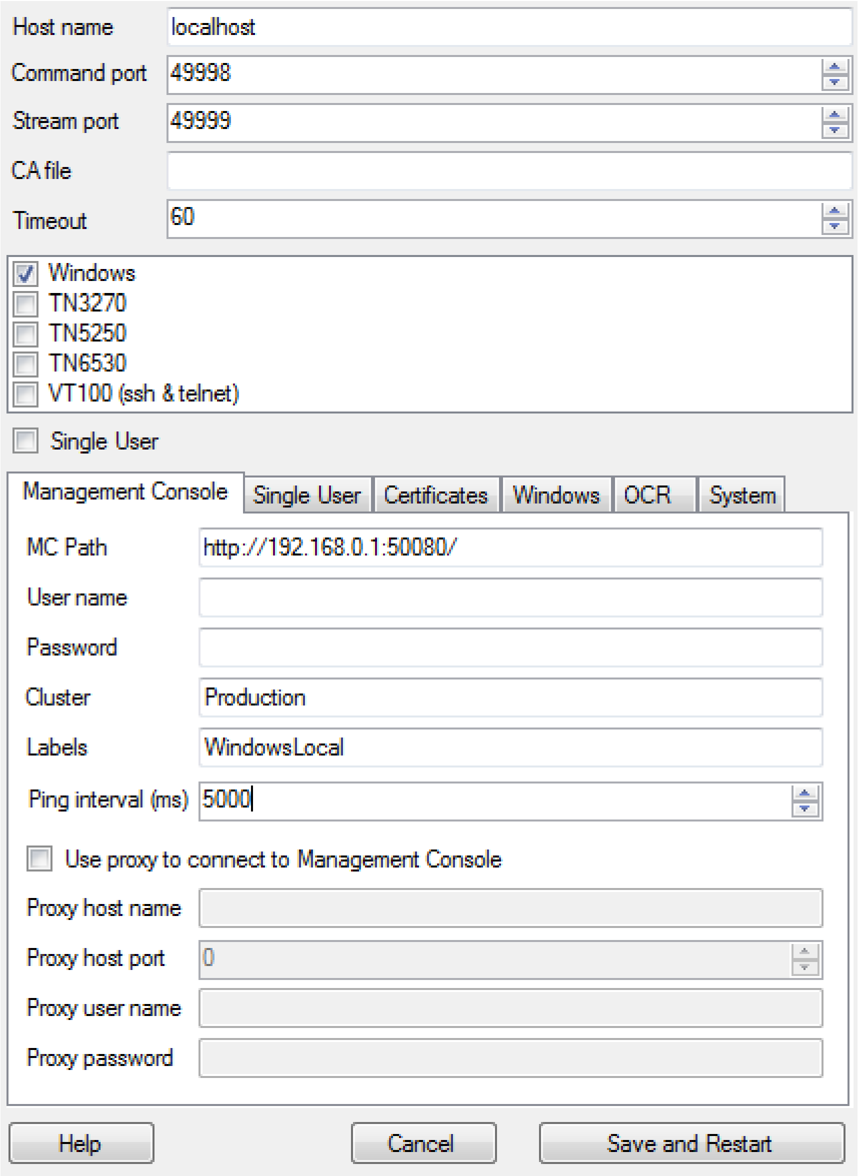
See the table with Device Automation Service options below.

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



Cluster/Device	Status	Labels
Production	Running	
kk80beta2.emea.kofax.com:49998	Available	win2003,sap

The following is a Device Automation Service configuration window.



Host name: localhost

Command port: 49998

Stream port: 49999

CA file:

Timeout: 60

☑ Windows
□ TN3270
□ TN5250
□ TN6530
□ VT100 (ssh & telnet)

□ Single User

MC Path: http://192.168.0.1:50080/

User name:

Password:

Cluster: Production

Labels: WindowsLocal

Ping interval (ms): 5000

□ Use proxy to connect to Management Console

Proxy host name:

Proxy host port: 0

Proxy user name:

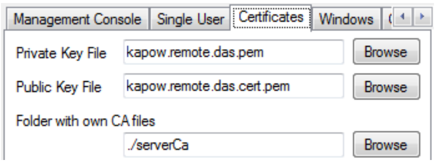
Proxy password:

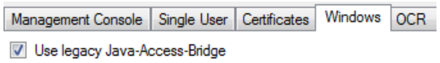
The following table lists the available Automation Device Agent options.

Configuration Window Option	server.conf Option	Value and Description
Single User 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 Automation Device Agent with the specified Management Console. For direct connection to the Automation Device, set to `true` and specify a token.*

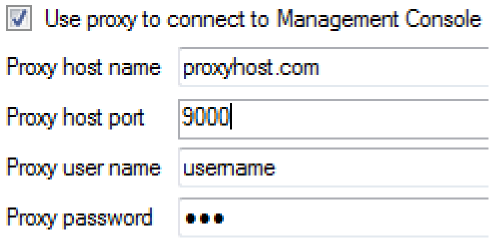
Configuration Window Option	server.conf Option	Value and Description
Host name	"hostName"	Name or IP address of the computer running the Automation Device Agent. If a computer has multiple names or IP addresses, specify the one that RoboServers and Design Studio contact this Automation Device Agent with. That is, the host name or IP address must be reachable from RoboServers and Design Studio.
Command port	"commandPort"	`49998` (default) Reassign this port for the Automation Device if necessary.
Stream port	"streamPort"	49999 (default) This port is used to send data between Design Studio and Automation Device Agent. If streamPort is set to "0", the Automation Device 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.
CA file	"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.
Timeout	"commandTimeout"	This option specifies the timeout for command execution in seconds. A command is an instruction sent to Automation Device, such as click mouse button, open application, add a location found guard, and so forth. If a command cannot be completed in a specified time, the service sends a notification and execution of the robot stops. 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. Similar situation occurs when using the Move Mouse and Extract steps. The commands must be invoked on the device withing the timeout specified in this field, but the robot waits for up to 240 seconds for the commands to complete. The command timeout for automating terminals or browsing websites in Device Automation Workflow is set either on the **Device Automation** tab of the Design Studio Settings window for executing the workflow in Design Studio, or in the **Device Automation** section on the **Security** tab of the **RoboServer Settings** window for roboserver execution.

Configuration Window Option	**server.conf Option**	**Value and Description**
Token on **Single User** tab	"token"	empty (default) If the "singleUser" option is set to `false`, leave this option empty. If you use the direct connection to the Automation Device (`"singleUser": true`), specify a token. It can be any token you define.
List of drivers to load at startup, such as Windows, TN3270, TN5250, VT100, and others Windows (default)	"drivers"	`["automationnative"]` (default) You can select drivers to load at startup. **Windows** is the default driver for automating native Windows and Java applications. Leave this parameter as is. To access terminal from the Automation Device, select the corresponding driver.

Certificates tab
 Management Console
Single User
Certificates
Windows
Browse
Browse
Browse
Private Key File kapow.remote.das.pem
Public Key File kapow.remote.das.cert.pem
Folder with own CA files ./serverCa
	"tlsServerConfig"	Kapow provides TLS communication between Automation Device and RoboServer or Design Studio. The communication uses certificates for encrypting the communication. The following is a `cerver.conf` file code extract. For more information see Use TLS Communication in Kapow help.
		`"tlsServerConfig": {`
		`  "key": "kapow.remote.das.pem",`
		`  "cert":`
		`"kapow.remote.das.cert.pem",`
		`  "ca": "./serverCa"`
		`},`

Windows tab  Management Console Single User Certificates Windows OCR ☑ Use legacy Java-Access-Bridge	"automationnative"	`"useLegacy"`: In some situations the Java Access Bridge does not work and it can help to switch to legacy mode. Default is `false`.
OCR	"ocrConfig"	"defaultLanguage": "eng" Specifies a language to perform an OCR operation. By default, Kapow installs the English language. See Change Default OCR Language below for language installation instructions.
System tab This tab helps you open the log file to examine for any errors and shows the version and location of the service file.		
Management Console Options		
MC Path 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.`	"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.

Configuration Window Option	server.conf Option	Value and Description
	"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.
User name	"user"	empty (default) User name to authenticate on the specified Management Console.
Password	"password"	empty (default) Password to authenticate on the specified Management Console.
Cluster	"cluster"	Production (default) Cluster name on the specified Management Console.
Labels	"labels"	"label1,label2" (default) Labels to distinguish the Automation Devices.
Ping interval (ms)	"pingInterval"	5000 (default) Time interval for the Device Automation Service to ping the Management Console.

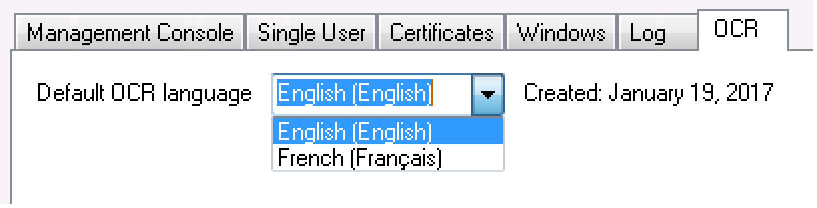
Use proxy to connect to Management Console	"useProxy"	Select this option for the Device Automation Service to use proxy when connecting to Management Console. All necessary parameters are specified in the following fields.
		
		☑ Use proxy to connect to Management Console
		Proxy host name proxyhost.com
		Proxy host port 9000
		Proxy user name username
		Proxy password •••
		Under Linux, you can set up proxy parameters in the `managementConsole` section of the `server.conf` file.
		`    "useProxy": true,`
		`    "proxyHostName":`
		`"proxyhost.com",`
		`    "proxyPort": 9000,`
		`    "proxyUserName": "username",`
		`    "proxyPassword": "pwd"`

* 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 RDP connection. See Use RDP Connection in Kapow help.

Change Default OCR Language

Kapow uses the Tesseract OCR engine to capture text from images. By default, Kapow installs English language for OCR. When your robot performs text recognition in the Extract Text From Image Step, the Device Automation Service uses the language selected on the **OCR** tab of the Device 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 downloaded trained data file to `DeviceAutomationService\lib\tessdata` in the Device Automation service installation directory. Example:
   `C:\Program Files (x86)\Kapow DeviceAutomation 10.1.0 x32\DeviceAutomationService\lib\tessdata`
3. Right-click the Device Automation icon in the notification area and select **Configure**.
4. Click the **OCR** tab and select a language in the **Default OCR language** list.



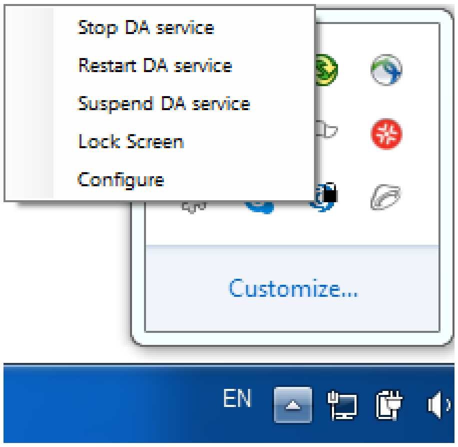
Default OCR language English (English)

Created: January 19, 2017

Click **Save and Restart**.

Manage Remote Device

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



Manage the Device Automation Service

The following commands help you manage the Device 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 Device Automation Service on the device.

Use Lock Screen

In some cases it is necessary to lock computer screens when working with Automation Devices. You can lock a screen by using the **Lock Screen** command on the Device Automation Service menu. Before locking your device screen, make sure the service is running and it is in the connected state. To lock a screen, right-click the Device Automation Service icon and select **Lock Screen**.

If Windows systems is configured to show an extra screen when the user logs in, Lock Screen tries to detect this extra screen and dismiss it by pressing OK. If this screen is not dismissed, the action may fail. When an extra screen is detected, Lock Screen feature dismisses it three seconds after the connection with the system is established. If automatic detection fails or three seconds do not suffice, add a KAPOW_LEGALNOTICE_SECONDS system variable in the environment variables on you automated device and set the number of seconds to wait before dismissing the window after connection in the *Variable value* field. Restart the Device Automation Service after adding the variable.

Lock Screen Usage Prerequisites
To use the Lock Screen feature with Device Automation, your device must meet the following requirements.

- Remote Desktop connection must be enabled.
- The user under which the Device Automation Service runs must be allowed to connect via Remote Desktop (as a member of the Admin group or the Remote Desktop group) and use a password.
- The effective group policy of **Computer Configuration** > **Administrative Templates** > **Windows Components** > **Remote Desktop Services** > **Remote Desktop Session Host** > **Security** > **"Always prompt for password upon connection"** must be off.
- Port 3389 must be open.
- The Automation Device cannot be a domain controller.