

Kofax Kapow 10.3 Training and Certification

Module 17 – Running Device Automation; New Features

Expanding your Abilities
Tips and Tricks

**Kofax
Kapow™**

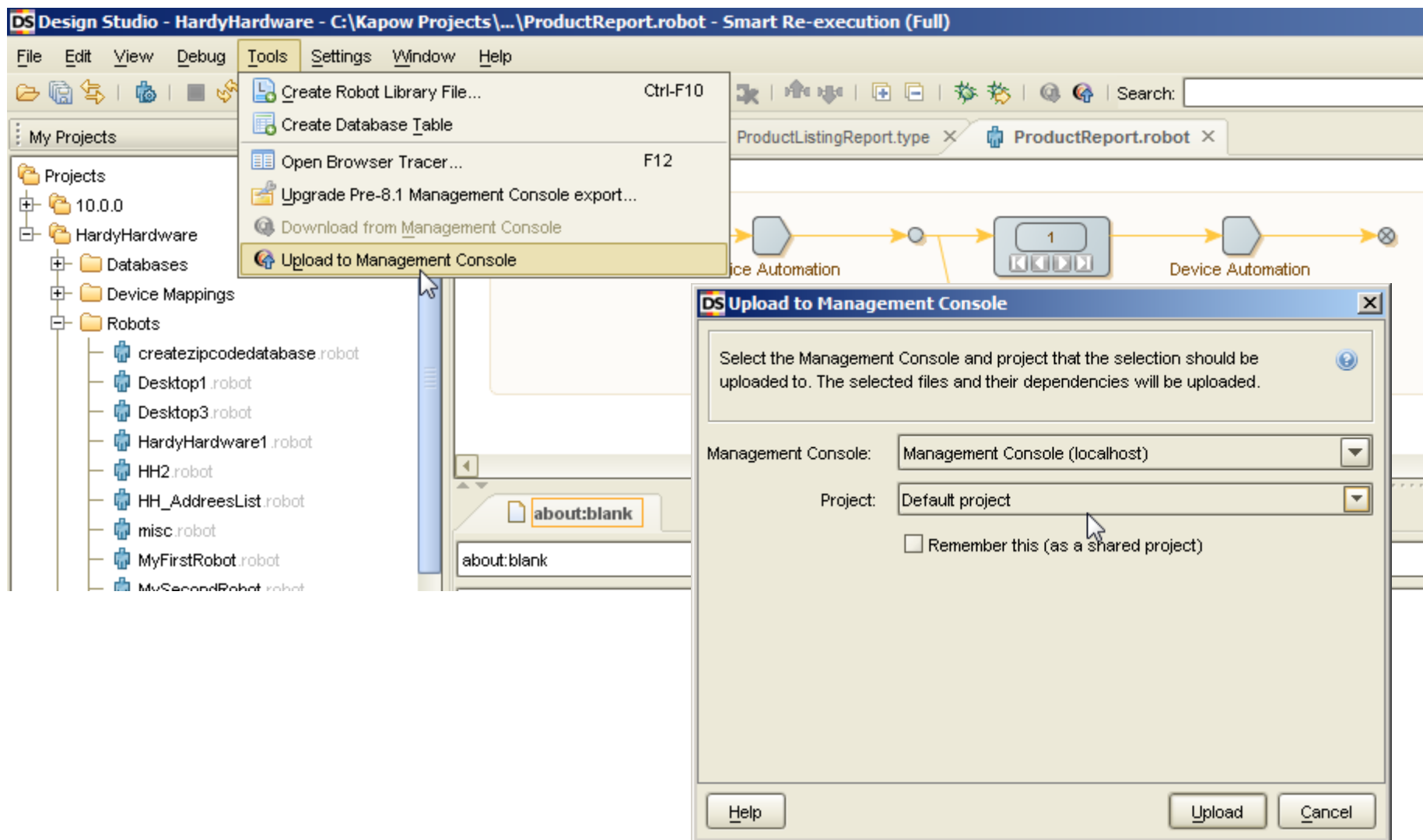


Running Your Robot



- ◆ As you've already seen, you can run a Device Automation Robot from the Design Studio through the Management Console Connection in Design Mode.
- ◆ You can also run it in Debug Mode
- ◆ And don't forget, you can also use a Direct Connection (in 10.2 called "Single User") that doesn't use the Management Console at all.
- ◆ You can schedule a robot to run automatically from the Management Console.
- ◆ You can run it through the API
- ◆ And you can run it from a Kapplet

Upload to Management Console



Robot Uploaded to Management Console

Kapow Management Console Version 10.0.0

Server Time: 08:11 | Local Time: 08:11

Repository > Robots

Robots

Types Snippets Resources Device Mappings Databases OAuth

+ Add Robot Filter Project Default project Robots per page 40 Refresh Every minute

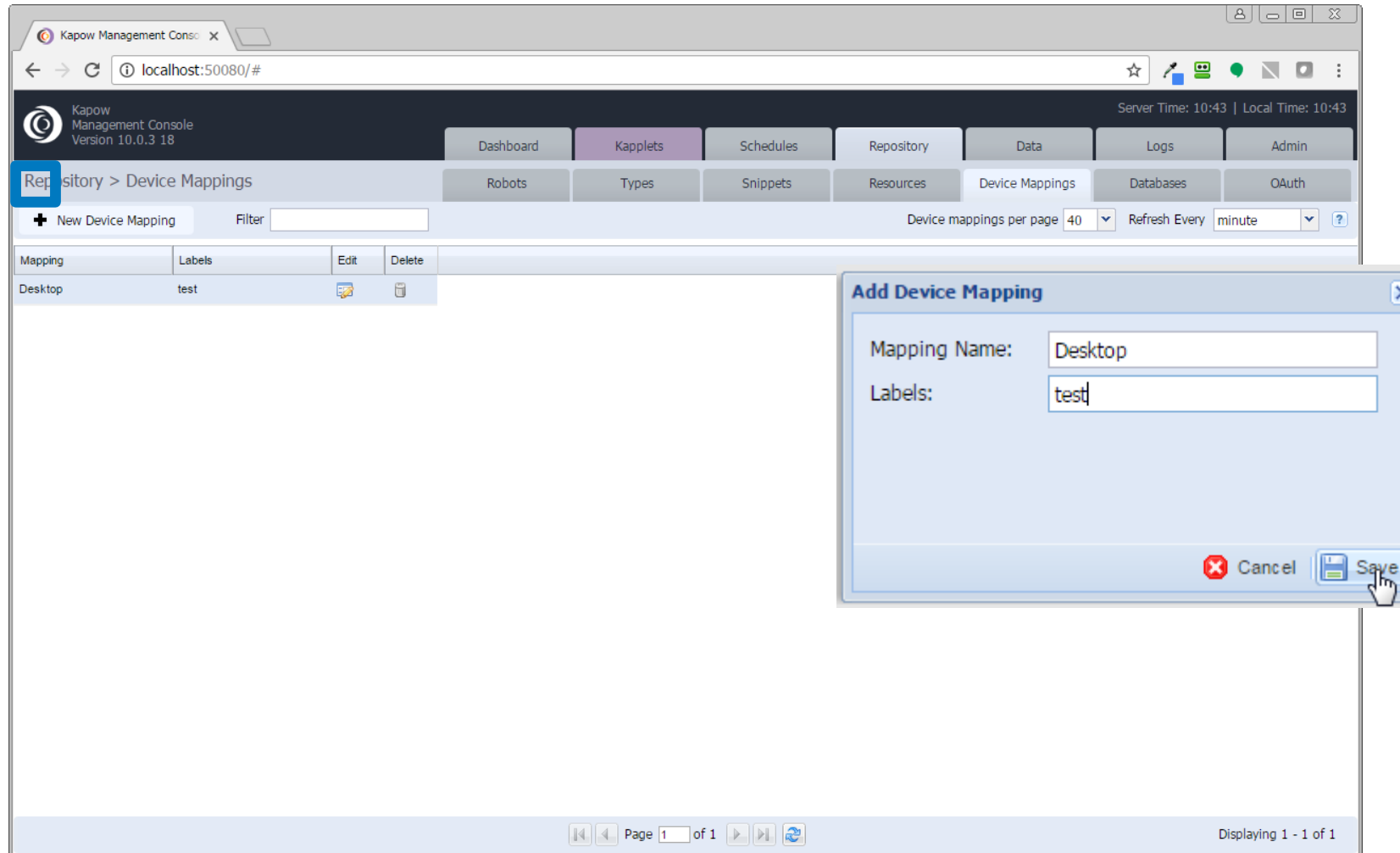
Folder	Name	Project Name	Version	Size	Schedules	Delete	Input Types	Returned Types	Stored Types	Snippets used	Last Modified	Run Now	API	REST	SOAP
Robots	Search_Item	Default project	9.4.5	21.65 KB			[Input]	[HardyHardware]	[HardyHardware]	[ExtractData]	2016-10-14 09:32:21				
Robots	ProductReport	Default project	10.0.0	123.45 KB			[ProductListingReport]				2016-11-03 07:47:12				

Page 1 of 1

Displaying 1 - 2 of 2

Device Mapping Created

- ◆ Check to see if your device has been mapped. If not, create a new Device Mapping.



Set up Schedule

The screenshot shows the Kapow Management Console interface. The 'Schedules' tab is selected in the top navigation bar. In the 'Schedules' section, the '+ Add' button is highlighted with a red circle. A 'New Schedule' dialog box is open, showing the 'Basic' tab. The dialog contains the following fields and options:

- Name:** Run Product Report
- Active:** ☒
- Simple / Cron:** Simple (selected)
- Every:** 1 Day
- Start Date (local time):** 08:10, 2016-11-03
- Run Robot?:** Use 'runrobot: TutorialCase1' to run robot TutorialCase1 for preprocessing or postprocessing
- Run Script?:** Write a script path and name to run a script
- Pre Processing:** (empty text field)
- Post Processing:** (empty text field)
- Run on Cluster:** Production

On the right side of the dialog, there is a table titled 'Jobs currently in this schedule' with columns 'Job Name', 'Active', 'Remove', and 'Edit'. The table is currently empty. At the bottom of the dialog, there are 'Save' and 'Cancel' buttons. The background interface shows a list of schedules with a message: 'No schedules. Click new in the top left to...'

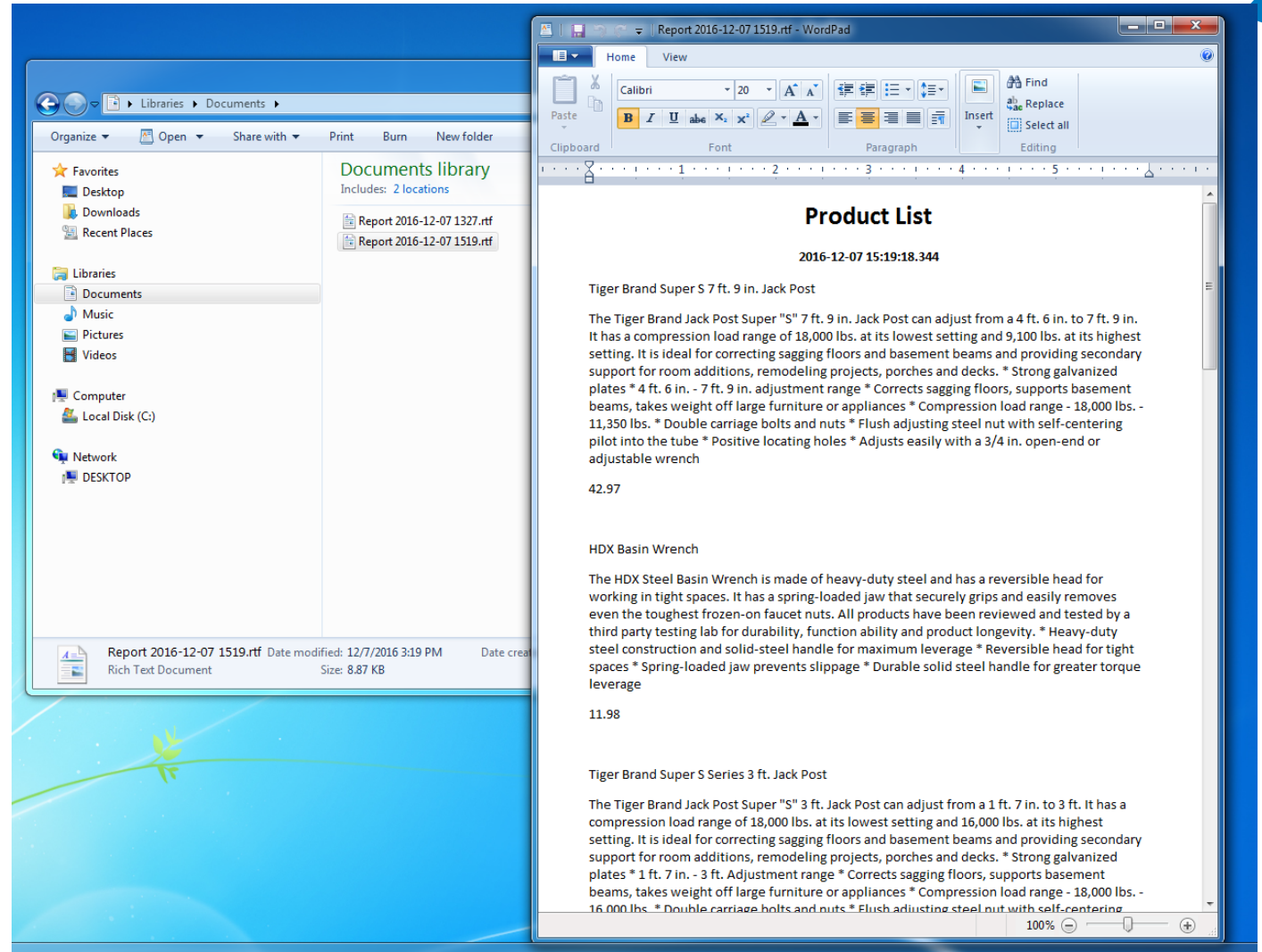
Select Robot and Set Inputs

- ◆ Select Robot from the dropdown and change the Display Name if you wish

The screenshot shows a 'Select robot' dialog box. It contains two labels: 'Robot:' and 'Display Name:'. The 'Robot:' dropdown menu is set to 'Robots/ProductReport'. The 'Display Name:' dropdown menu is open, showing two options: 'Robots/ProductReport' and 'Robots/Search_Item'. A mouse cursor is pointing at 'Robots/Search_Item'. At the bottom of the dialog, there is a 'Help' button on the left and a group of navigation buttons: '< Back', 'Next >', 'Finish', and 'Cancel'.

Robot Successfully Ran

- ◆ Because this runs once a day and because each day, the file gets a new file name, the folder will build with daily reports.
- ◆ You can also create a Kapplet to run your robot on an ad hoc basis.

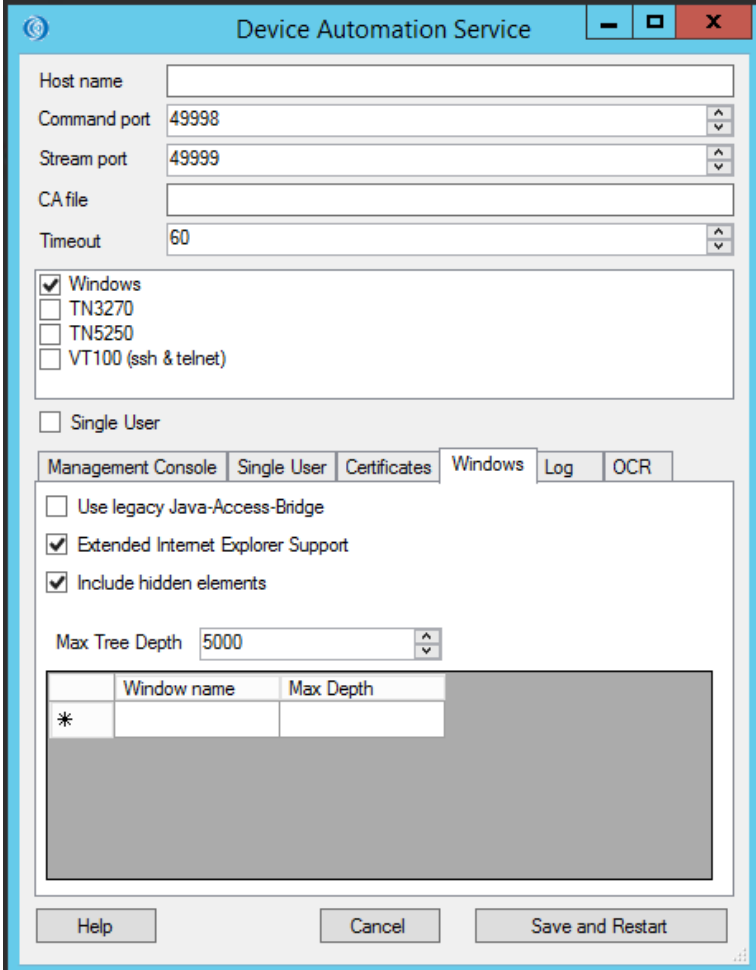


Newly Introduced Features

The Evolution of Device Automation

Device Automation Service - Configuration

- ◆ Kofax Kapow 10.0 required manually modifying a "server.conf" file. Now configuration is done in a friendly user interface.
- ◆ Offers extended Internet Explorer Support
 - ◆ Extract HTML tree from IE
- ◆ Include hidden elements
 - ◆ Applications with large (grid) structures
- ◆ Max Tree Depth
 - ◆ Java applications only



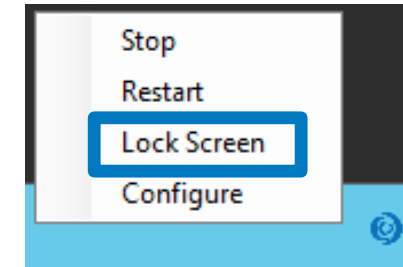
The screenshot shows the 'Device Automation Service' configuration window. It includes fields for Host name, Command port (49998), Stream port (49999), CA file, and Timeout (60). There are checkboxes for Windows, TN3270, TN5250, and VT100 (ssh & telnet). A 'Single User' checkbox is also present. Below these are tabs for Management Console, Single User, Certificates, Windows, Log, and OCR. The 'Windows' tab is selected, showing checkboxes for 'Use legacy Java-Access-Bridge', 'Extended Internet Explorer Support', and 'Include hidden elements'. The 'Max Tree Depth' is set to 5000. At the bottom, there is a table with columns 'Window name' and 'Max Depth', and a row with an asterisk '*'. The window has 'Help', 'Cancel', and 'Save and Restart' buttons.

Window name	Max Depth
*	

Lock Screen

- ◆ You can now lock the screen of the remote device via a system tray icon.
- ◆ Lock Screen Usage Prerequisites
 - ◆ Remote Desktop connection must be enabled
 - ◆ The "Only allow connections from computers running Remote Desktop with Network Level Authentication" option must be deselected
 - ◆ The user must be allowed to connect via Remote Desktop and use a password
 - ◆ Port 3389 must be open
 - ◆ The Automation Device cannot be a domain controller

10.1



10.2

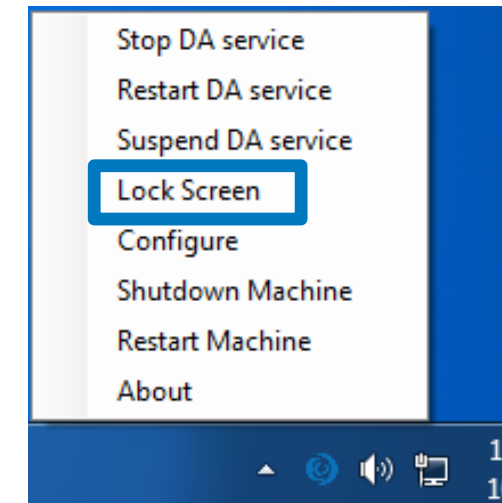
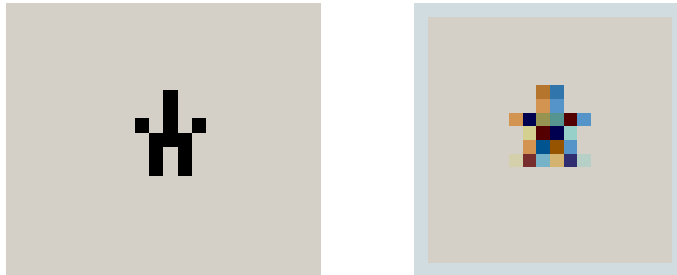


Image Finders

- ◆ Finding screen elements without tree information
- ◆ Citrix
- ◆ Note: Screen driver affects bitmap appearance



Finder

Device
win2012

Application
wfica32.exe[title="Calcula

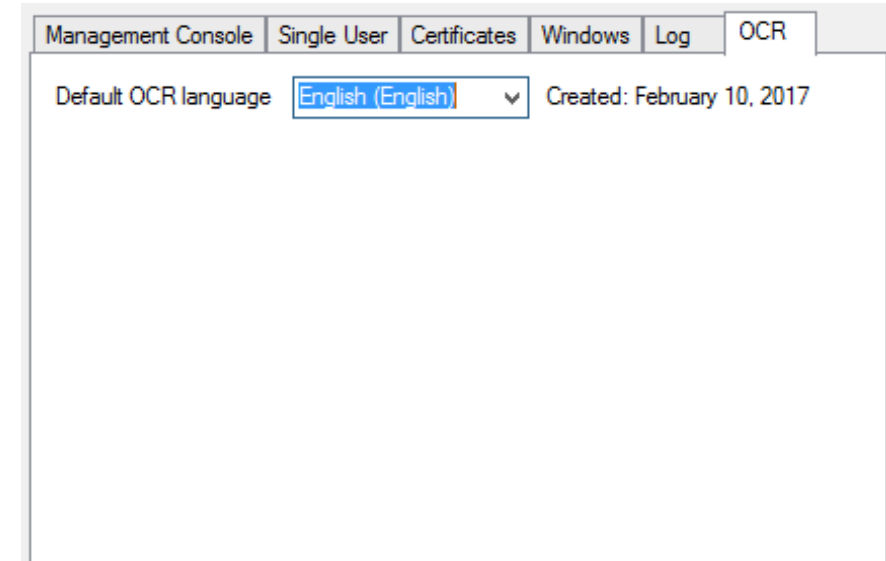
Component
*

Contents

Image
C

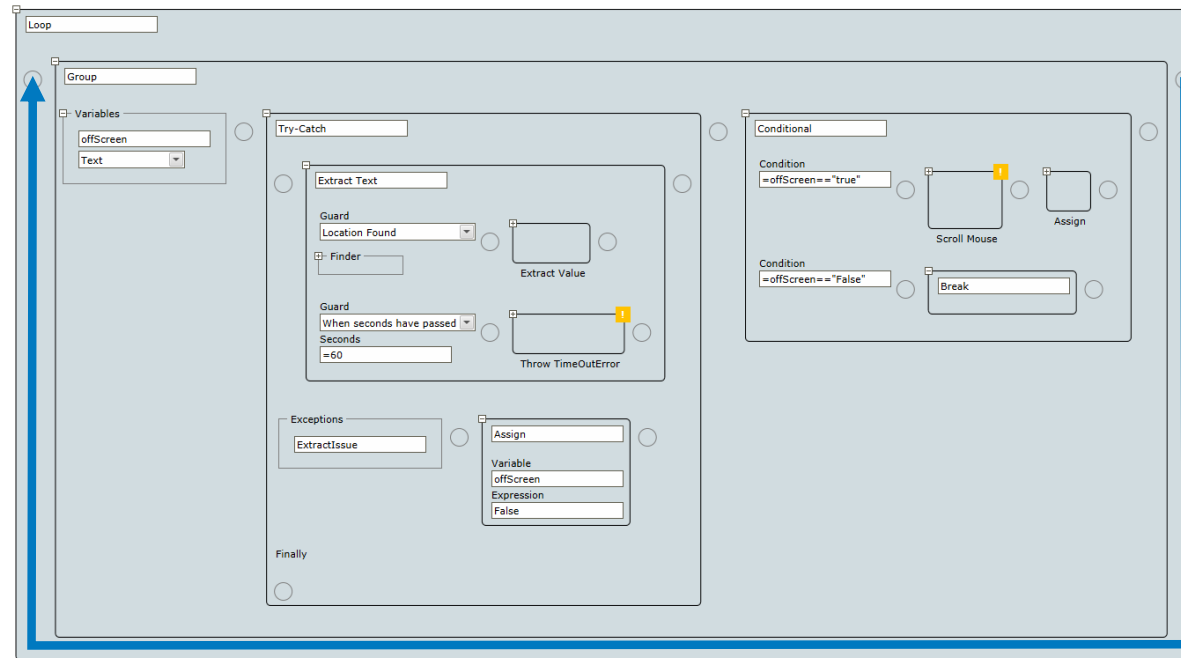
Extract text from Image "OCR"

- ◆ Device Configuration
 - ◆ Using Google Tesseract
 - ◆ Default English language training set included
 - ◆ New languages can be added
- ◆ Step Configuration
 - ◆ Text Font Size
 - ◆ Image Binarization

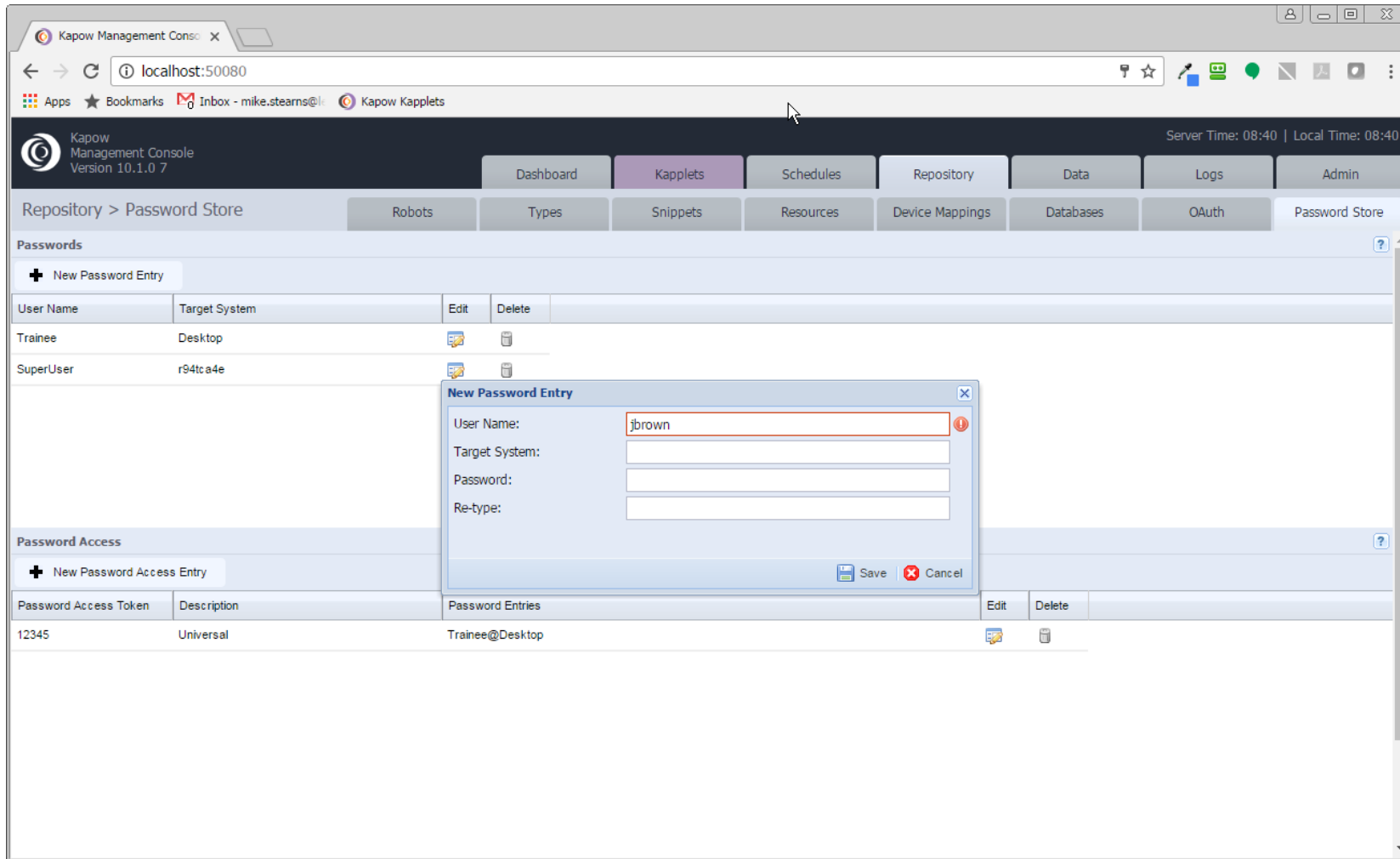


Looping in a Device Automation Step

- ◆ Loop step – Not like a loop step outside of a Device Automation step.
- ◆ Menu and keyboard next iteration
- ◆ End a loop with:
 - ◆ Break
 - ◆ Throw
 - ◆ Return



New Tab in MC - Password Store



Password Store Use

- ◆ Securely store passwords for robots
- ◆ Separation of Design-time and Run-time credentials
- ◆ Run-time credentials locked to robot instance
 - ◆ If you edit the robot, access token has to be regenerated

Repository > Password Store			
Passwords			
+ New Password Entry			
User Name	Target System	Edit	Delete
Citrix1	SQLAB	[Edit]	[Delete]
svend	Kapow	[Edit]	[Delete]

Password Access				
+ New Password Access Entry				
Password Access Token	Description	Password Entries	Edit	Delete
DesignStudio_PC0HWN2Y.emea.kofax.c...	d	Citrix1@SQLAB, svend@Kapow	[Edit]	[Delete]
FMQTP4JPIPVAgpQL1R0xj+1Chc=	CitrixCalc	Citrix1@SQLAB	[Edit]	[Delete]

Lookup Password
Action Step

Lookup Password ▾

This action retrieves a password from the Password Store in Management Console. Be sure to have a "Password Access entry" in the Management Console with the Password Access Token: DesignStudio_PC0HWN2Y.emea.kofax.com and the User Name and Target System specified below.

User Name:

Target System:

Variable:

New Security Features in Kofax Kapow 10.1



- ◆ Lock Screen
- ◆ Password Store
 - ◆ Use Certificate Cipher
 - ◆ Default: RSA 1024 bit
- ◆ SSL(TLS 1.2) Communication with DAS
- ◆ Veracode Vulnerability Scanning
 - ◆ Now part of release process
- ◆ Praetorian 3rd party penetration testing
 - ◆ Only “Low Risk” and “Informational” issues

Other Improvements in Kapow 10.1 over 10.0



- ◆ Expanded UI Automation - New Steps
 - ◆ Scroll-wheel
 - ◆ Element attributes: e.g. offScreen
 - ◆ Mouse Press & Release
- ◆ Enhanced Robot Design
 - ◆ Auto-generation of guards and time-out
 - ◆ Improved default finder generation
 - Better heuristic for generating robust finders
 - Multi-attribute finders
 - ◆ Improved execution flow
 - Pause on Finder Error (restart not required)
 - ◆ Visual improvements
 - Left-to-right
 - ◆ Overall performance improvements

Kapow 10.2 Changes and Updates



Deploy & manage

- Project-based authentication
- Robot orchestration
- Device management



User experience

- Improve robot building
- Expression editor
- Error logging

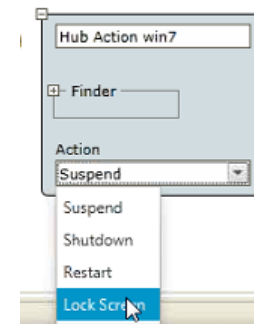


Dynamic OCR

- Advanced image automation
- Extraction of dynamic text in images

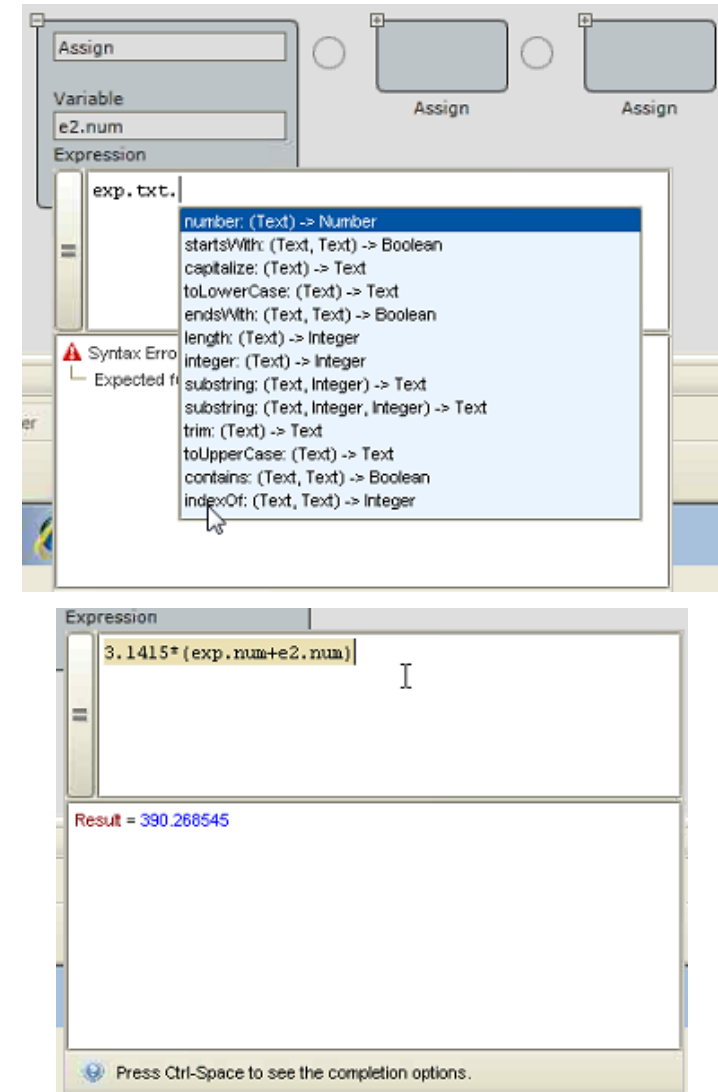
10.2 features – Deploy & Manage

- ◆ Project-based access to Password Store
- ◆ Queuing of robot if no device available
- ◆ Error logging
 - ◆ Detailed RPA step logging; storing information about exception, error message and location code
- ◆ Device management (new step type)
 - ◆ Stop/restart/suspend Device Automation service
 - ◆ Start/stop Device error logging
 - ◆ Restart/shutdown Device
 - ◆ Lock screen
 - ◆ Open RDP connection (separate step)
 - ◆ Direct Connection now called Single-User



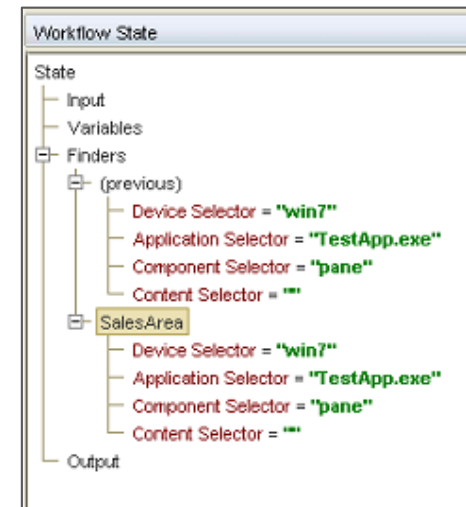
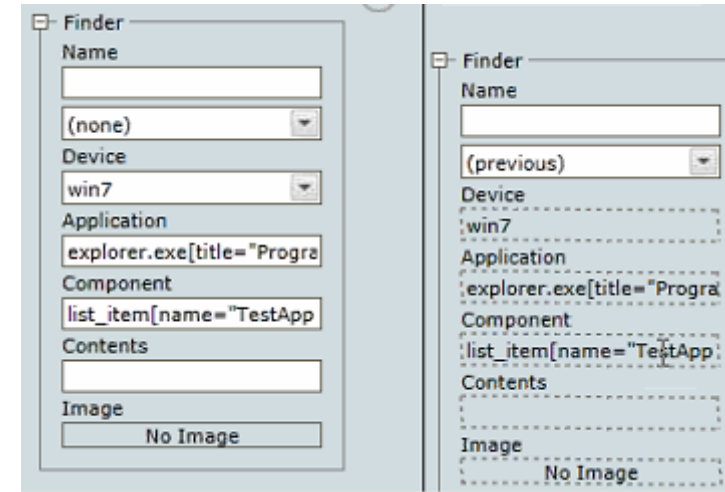
10.2 features – User Experience

- ◆ Expression editor
 - ◆ Auto completion
 - ◆ Context sensitive completion (Ctrl-Space)
 - ◆ Validation (type errors, missing variables, unknown functions, ...)
 - ◆ Expression evaluation (and sub-expression evaluation)
 - ◆ Highlighting of error location in expression
 - ◆ Context help
 - ◆ Robot step naming

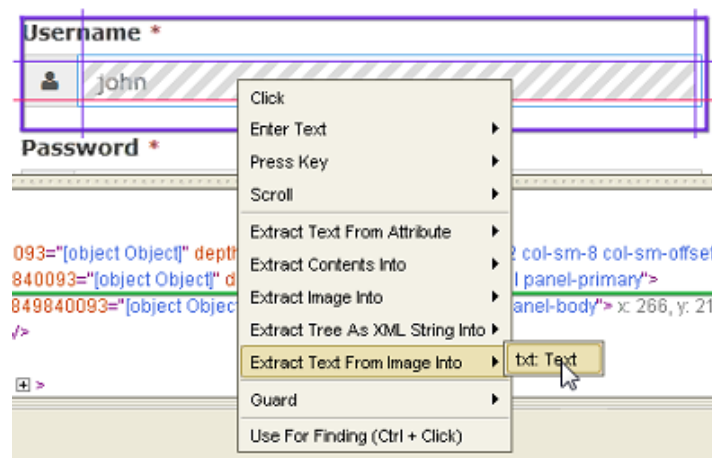
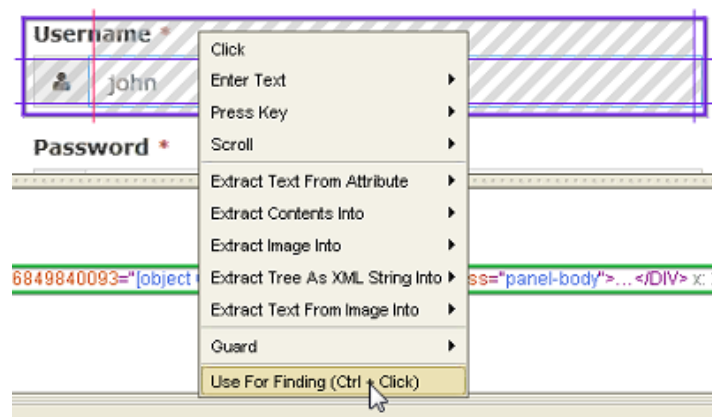


10.2 features – User Experience (cont.)

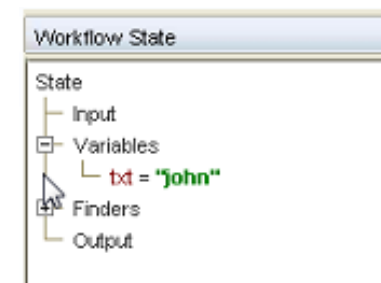
- ◆ Improve robot building
 - ◆ Finders
 - Reusable/named finders
 - Easier to edit
 - Copy/paste finder
 - ◆ Extract application tree as XML
 - ◆ Undo/redo



10.2 features – Advanced Image Finder & OCR

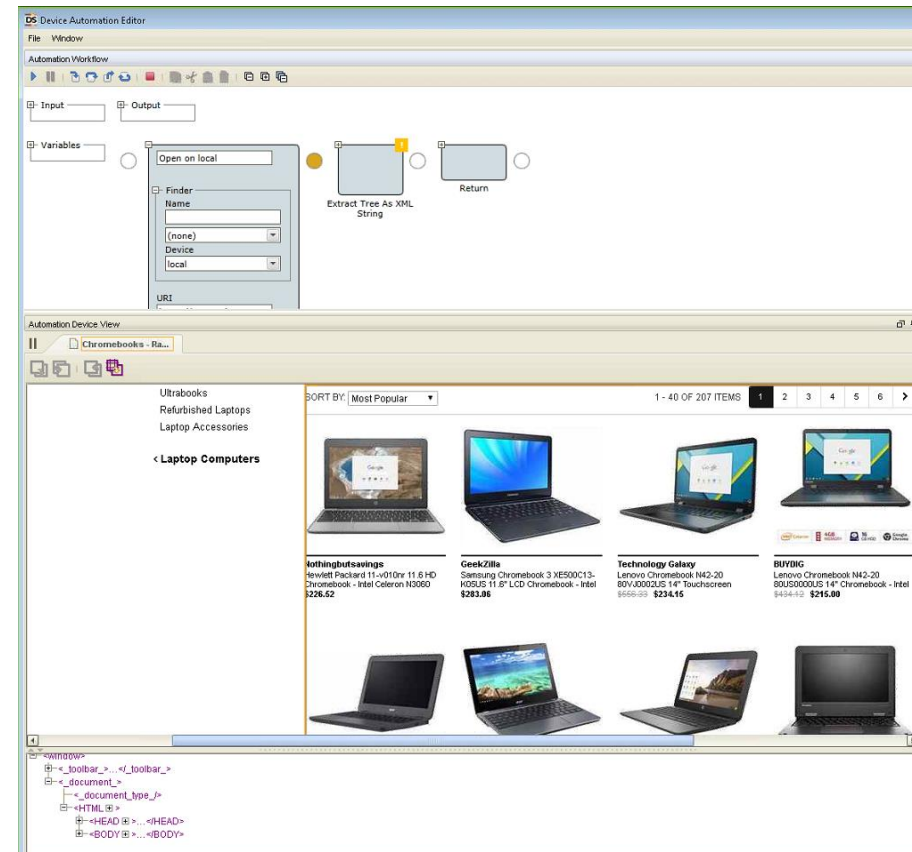
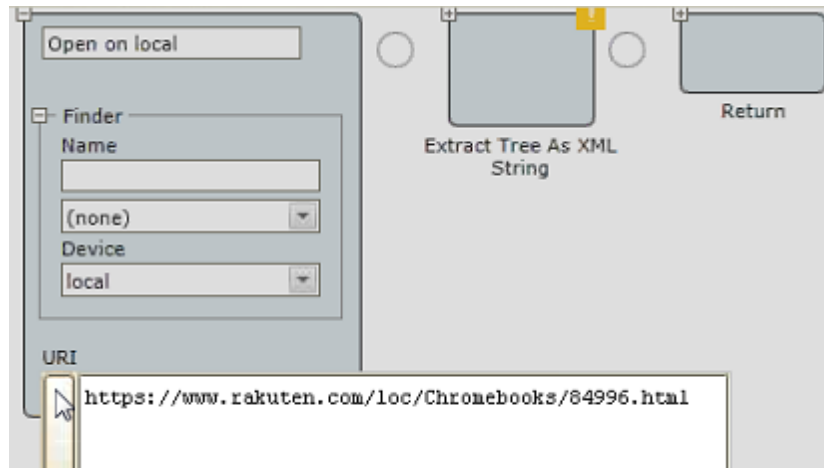


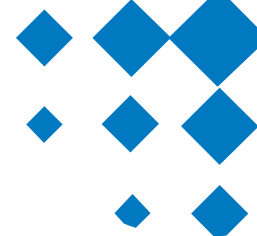
— OCR —→



10.2 features – Other great new stuff

- ◆ Headless Chromium
 - ◆ Disabled in 10.2 by default, but very easy to enable (coming up)
 - ◆ Enabled by default in 10.3





10.2 features – Other great new stuff

- ◆ Security & Authentication features
 - ◆ Cred SSP security for communication between Kapow lock and localhost
 - ◆ Multi-forest LDAP
 - ◆ Webkit support for SSPI and GSS
 - Using GSS API (Linux) and SSPI (Windows) for Kerberos authentication and SSPI on Windows for NTLMv2
 - Greatly improved NTLMv2 for Linux (mimicking modern browsers' Posix implementation)
 - ◆ 3270/5250 SSL support by integrating stunnel

Kapow 10.3 New Features

- ◆ Attended Automation
- ◆ Intelligent Screen Automation
- ◆ Easier-to-understand Licensing
- ◆ Localization Framework
- ◆ Easier Enterprise Deployment
- ◆ Embedded Chromium enabled by default
- ◆ White Labeling
- ◆ User Experience Improvements



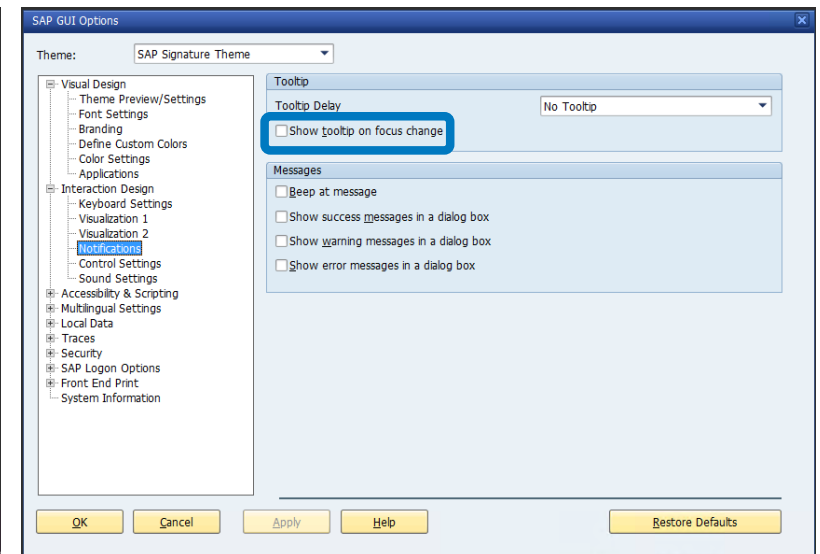
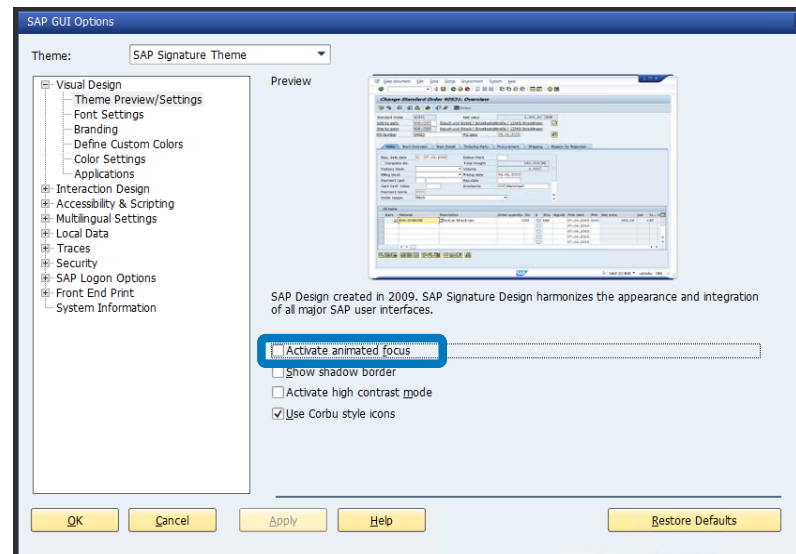
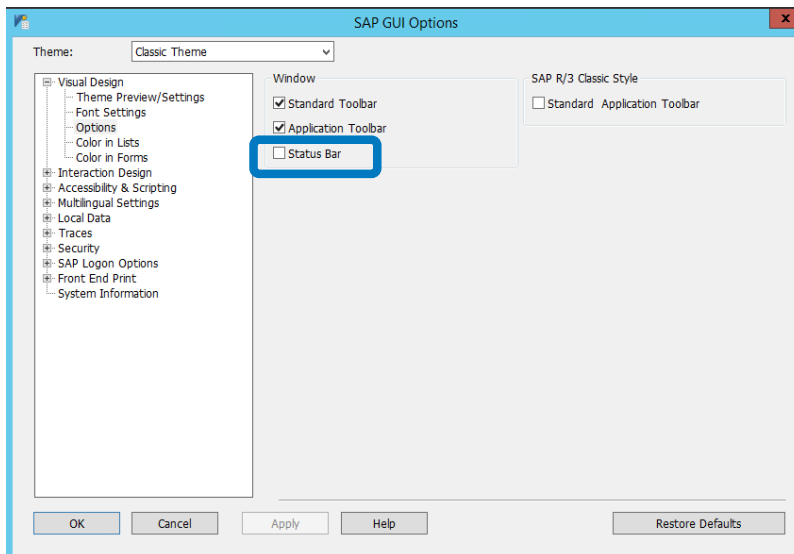


Tips and Tricks

Hints from the Experts to Make your Life Easier

Useful SAP GUI settings

- ◆ Disable status bar
- ◆ Disable Animated Focus
- ◆ Disable Tooltips

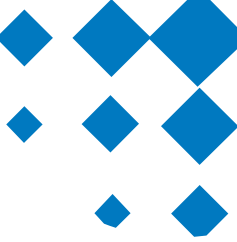


Tips & tricks



- ◆ Image finders
 - ◆ Advanced finder – extract dynamic content
 - ◆ 9-grid sections (AKA "features")
 - ◆ Always extract text from the center feature
 - ◆ Click features in 9-grid to toggle on/off
 - ◆ Use for e.g. content, grids, buttons, images of variable size
 - ◆ Move finder borders and dividers with keyboard
- ◆ Extract application tree to XML
 - ◆ Use XML type in Device Automation step output

Tips & tricks (cont.)



- ◆ Robot testing
 - ◆ When building a robot, you usually need to run the Open step again and again. Instead of starting with a clean desktop – opening your application/webpage every time, insert your Open step in a "Location Not Found" guard.
- ◆ Workflow
 - ◆ Cleaning up your Device Automation workflow when building – use right-click expand/collapse feature (also works with multi-select)
 - ◆ Remember you can copy and paste finders – also referenced finders (Previous)

Tips & tricks (cont.)

- ◆ Prevent GUI suspend on minimize
 - ◆ It is very useful to have a remote desktop open while developing desktop automation robots in Kapow
 - ◆ If you minimize the remote desktop window (the window that displays the remote computer's desktop), Windows switches the remote session to the GUI-less mode and does not display windows and controls. As a result, Kapow (and other similar products) will be unable to interact with the application's GUI, as it does not exist, Design Studio will just show a black screen, and your robots GUI interactions will fail.
 - ◆ To avoid this, you can change the remote desktop's registry settings on your local computer (where you launch the remote desktop):
 - On your local computer, close all open remote desktop sessions
 - Launch the Registry editor (*regedit.exe*)
 - Navigate to one of the following Registry keys, depending on whether you wish to modify the remote desktop settings only for the current user or for all users on the computer:
 - `HKEY_CURRENT_USER\Software\Microsoft\Terminal Server Client`
 - `HKEY_LOCAL_MACHINE\Software\Microsoft\Terminal Server Client`
 - Create a `DWORD` value named `RemoteDesktop_SuppressWhenMinimized` and set it to 2
 - Close the Registry Editor

Tips & tricks (cont.)

- ◆ Keyboard shortcuts
 - ◆ Expression editor
 - Press ESC (or click outside editor) to save and close expression editor
 - You can jump INTO an expression editor with TAB – but not out
 - You can use Ctrl-C and Ctrl-V inside the expression editor – also copy content from the status field below the editor.
 - Using keyboard for cut/copy/paste steps (also manipulating multiple steps)



Demo & Lab

Running a Device Automation Robot