

Kofax Kapow 10.3 Training and Certification

# Module 12 – RESTful Web Services

Creating a Web Service from a Robot

**Kofax  
Kapow™**



# Training Module Overview



- ◆ In this module and lab, you'll create a Robot that connects to a Post Office web site which allows you to input address information. The web site will return a properly formatted address along with latitude and longitude information. You'll be extracting this data.
- ◆ From this Robot, you'll create a RESTful Web Service that you'll be using to build your final robot in the next training module. You will test it running as a service in the Management Console.
- ◆ You'll also create a Kapplet using the Kappzone feature in the Management Console.
- ◆ You will run the Kapplet.

# You Enter the Address Information

- ◆ On our Post Office web site, you enter the address and city, select a state from the dropdown and enter the zip. Then you click on [Submit].

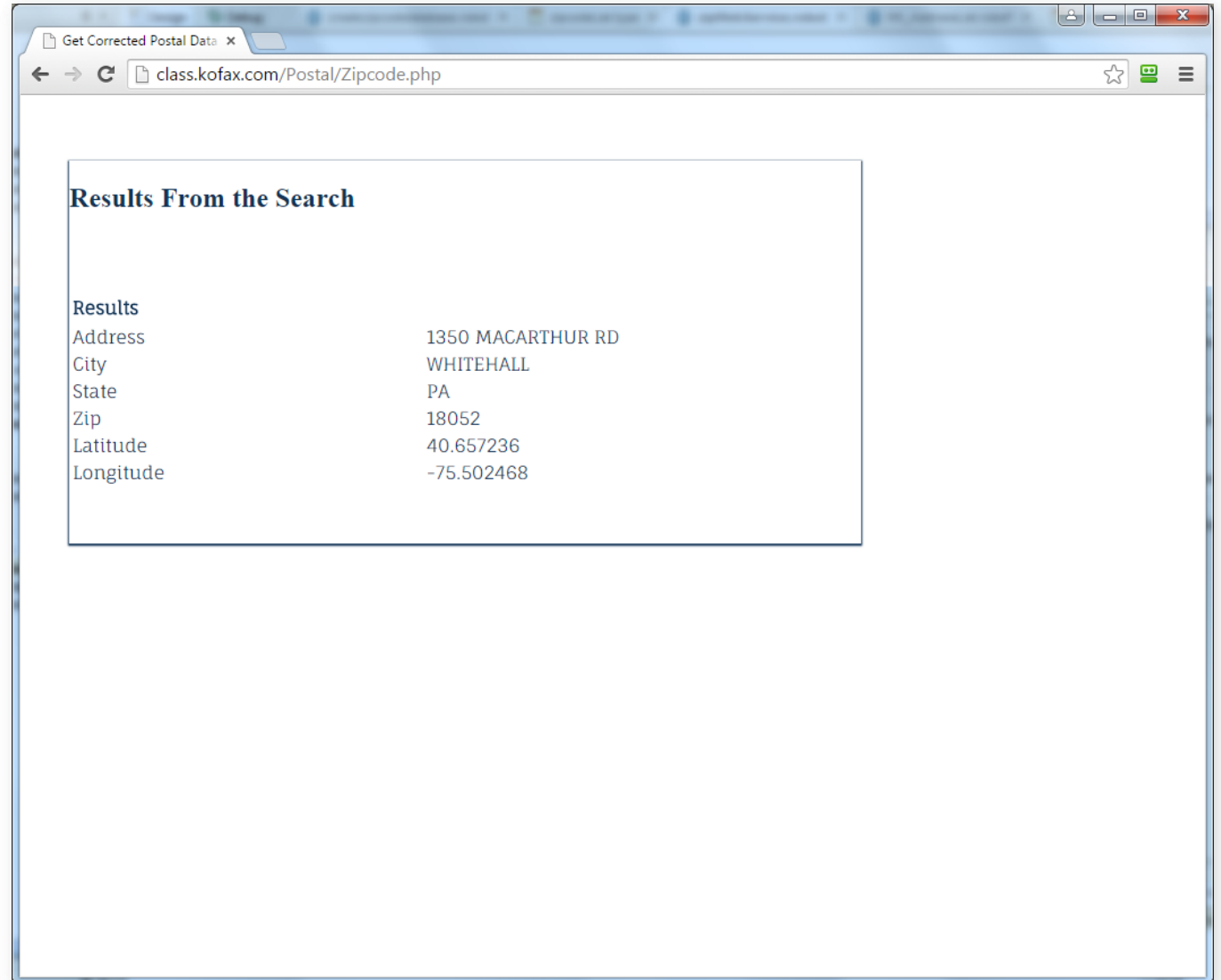
The screenshot shows a web browser window with the address bar displaying `class.kofax.com/Postal/Zipcode.php`. The page title is "Get Corrected Postal Data". The main heading is "Get Corrected Address Information". Below this, a paragraph states: "The Address Correction Application is used for training and will find most address located on the Hardy Hardware Site. It is NOT capable of finding all Address in the US." The form is titled "Fill Your Information !" and contains the following fields:

- Address :
- City :
- State :
- Zip :

A blue "Submit" button is located at the bottom of the form.

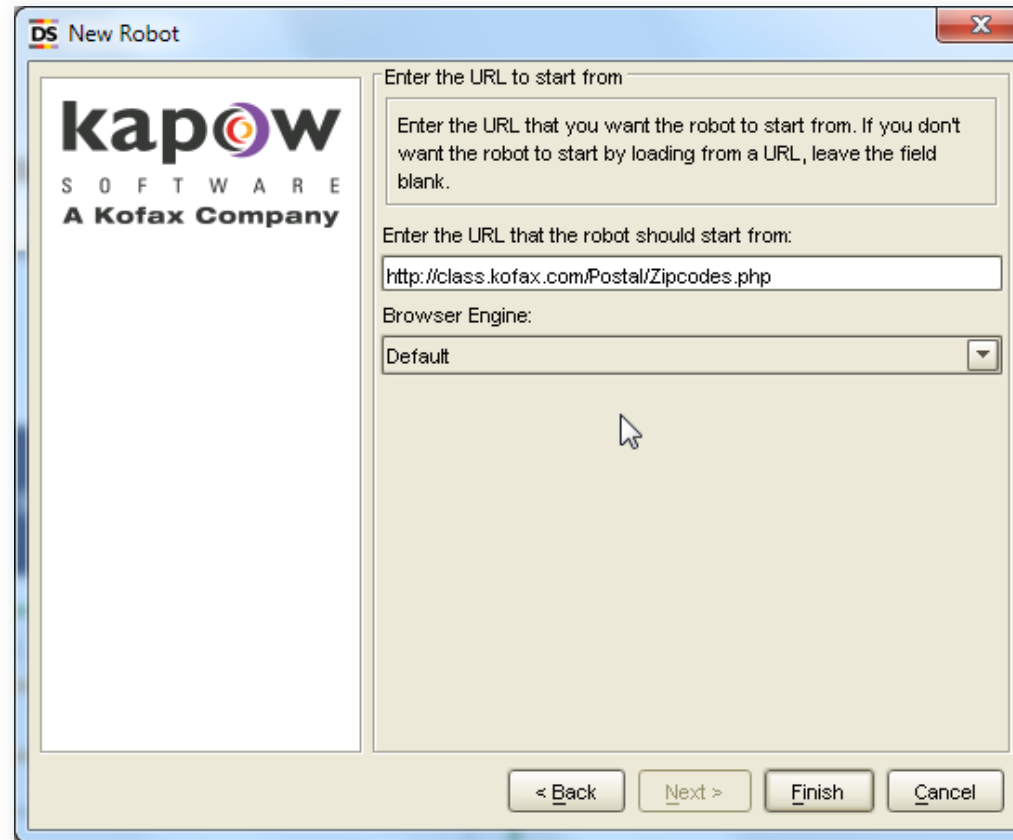
## And the Site Returns...

- ◆ The site returns a properly formatted address (all in capital letters) along with the latitude and longitude coordinates.
- ◆ You want to extract this information. *In the next module, you'll set up this Robot to run as a Web Service.*

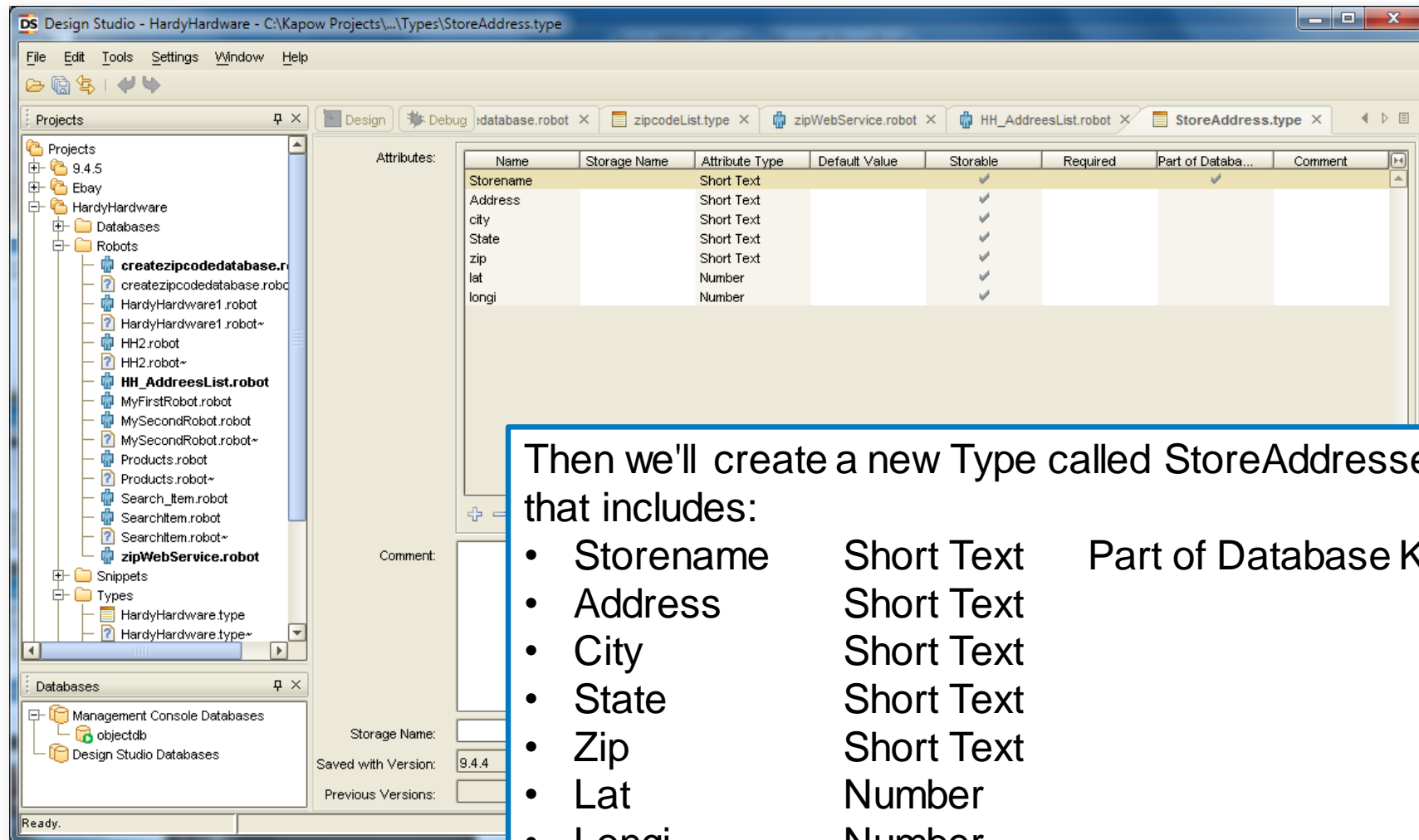


# Create a New Robot

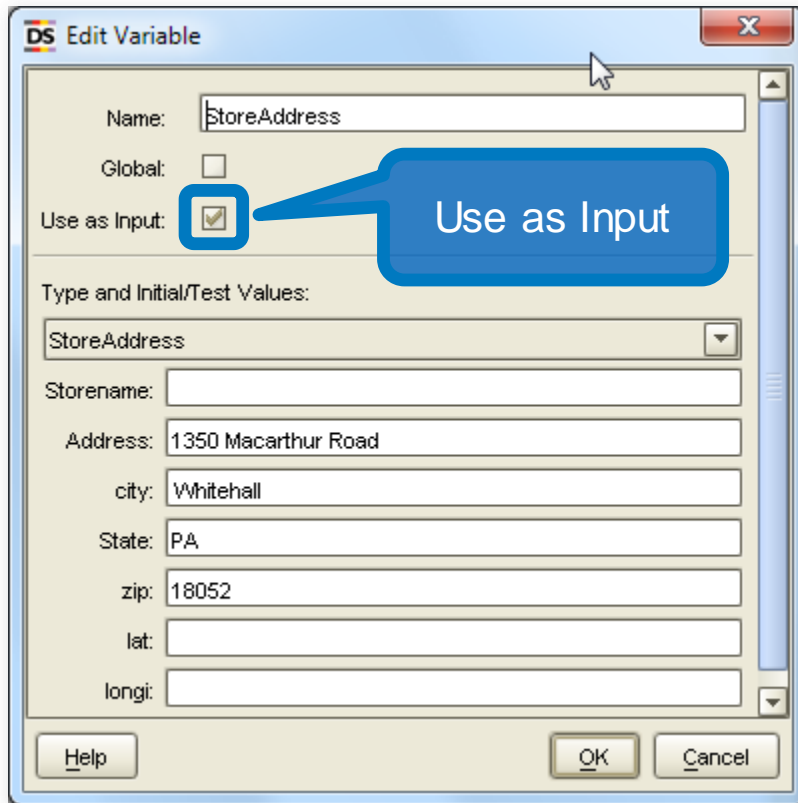
- ◆ To begin, we'll create a new robot.
- ◆ It will load the page <http://class.kofax.com/Postal/Zipcodes.php>



# Create a New Type and Add Attributes



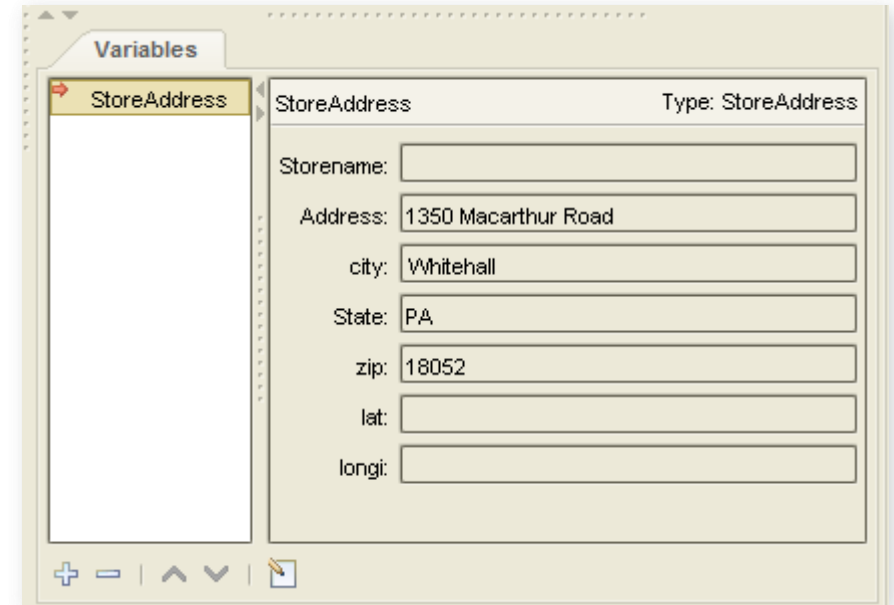
## And Add a Variable Using the Types file



The 'DS Edit Variable' dialog box is shown. The 'Name' field contains 'StoreAddress'. The 'Global' checkbox is unchecked. The 'Use as Input' checkbox is checked, and a blue callout bubble points to it with the text 'Use as Input'. Below this, the 'Type and Initial/Test Values' section shows a dropdown menu with 'StoreAddress' selected. Below the dropdown are input fields for 'Storename', 'Address' (1350 Macarthur Road), 'city' (Whitehall), 'State' (PA), 'zip' (18052), 'lat', and 'longi'. At the bottom are 'Help', 'OK', and 'Cancel' buttons.

We need to provide legitimate HH input values for Address, City, State and Zip for testing purposes. Remember, you can change these in Debug mode.

So our Variables panel looks like this.



The 'Variables' panel is shown. It has a tab labeled 'StoreAddress'. The panel displays the variable 'StoreAddress' with 'Type: StoreAddress'. Below this, the same input fields as in the 'DS Edit Variable' dialog are shown: 'Storename', 'Address' (1350 Macarthur Road), 'city' (Whitehall), 'State' (PA), 'zip' (18052), 'lat', and 'longi'. At the bottom are navigation icons: a plus sign, a minus sign, up and down arrows, and a refresh icon.

# Add an "Enter Text" Step

Select the Address box in the browser panel. Right mouse-click and select "Enter Text."

Specify the text to enter in the field.

Text to Enter: Select a Variable

- Select a Variable
- StoreAddress.Storename
- StoreAddress.Address
- StoreAddress.city
- StoreAddress.State
- StoreAddress.zip
- StoreAddress.lat
- StoreAddress.longi

Value  
Variable  
Expression  
Converters

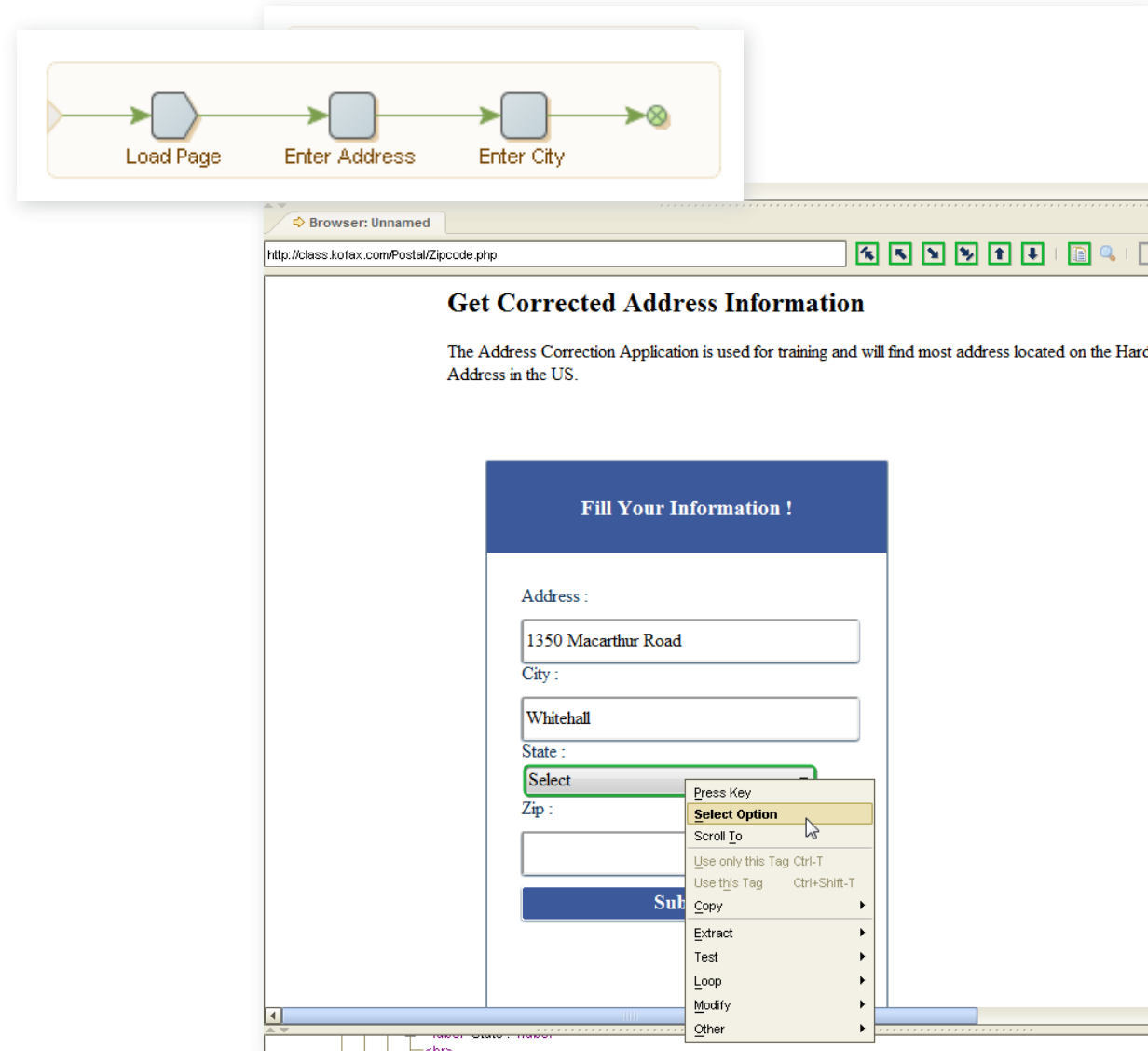
OK Cancel

Select the "StoreAddress.Address Variable."



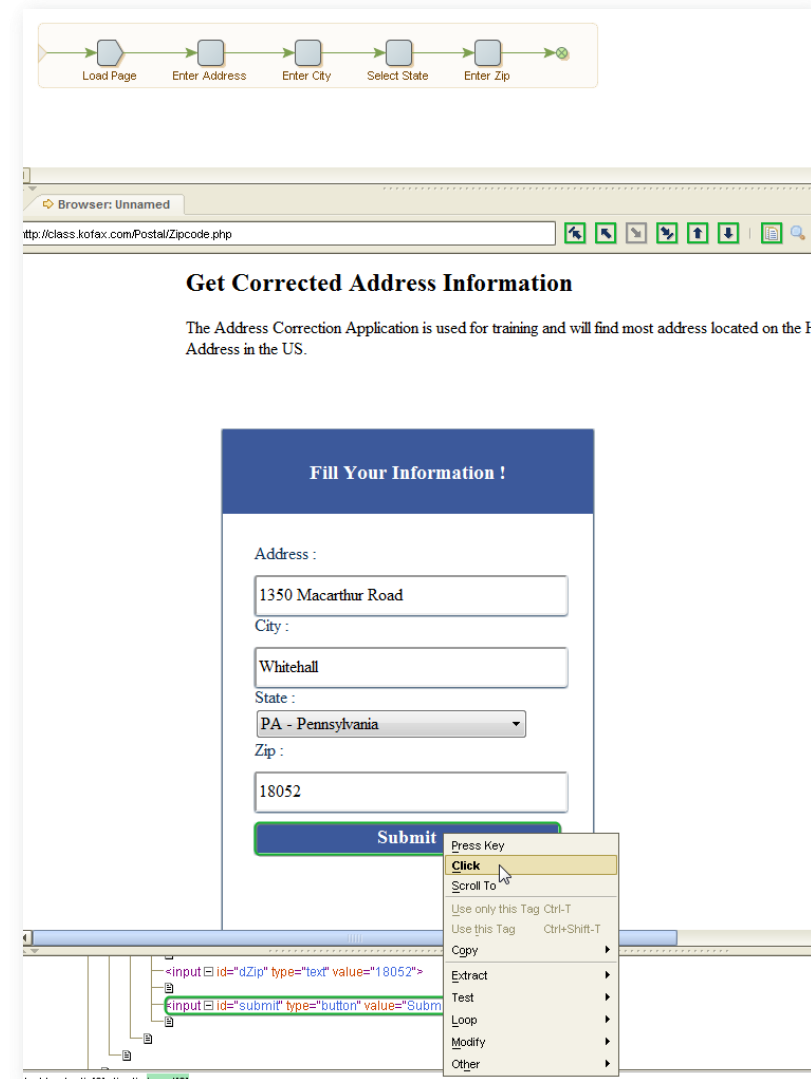
# Set Up City, State and Zip

- ◆ Notice that because the State is a dropdown, instead of "Enter Text" you are presented with "Select Option."
- ◆ All four fields are populated with the appropriate Variables.



## Next, Add a Simple Click Step

- ◆ Select the [Submit] button and create a Click Action step as shown here.



# And the Values Are Returned

- ♦ Passing "Click Submit" returns the data we want to extract.

The image shows a Kofax workflow diagram at the top with the following steps: Load Page, Enter Address, Enter City, Select State, Enter Zip, and Click Submit. Below the workflow is a screenshot of a web browser window titled "Browser: Unnamed" with the URL "http://class.kofax.com/Postal/Zipcode.php". The browser displays a page titled "Results From the Search" which contains a table of search results.

Results	
Address	1350 MACARTHUR RD
City	WHITEHALL
State	PA
Zip	18052
Latitude	40.657236
Longitude	-75.502468

# Set Up Extract Steps for the Returned Values

- ◆ The Extract steps are set up exactly as you've done before. We'll set up extraction for:

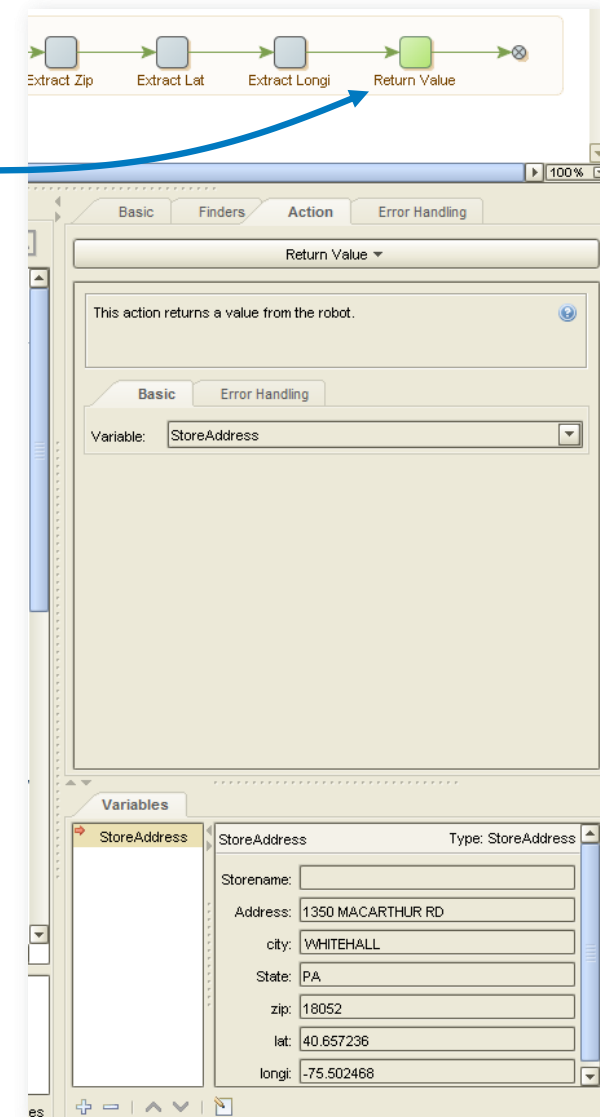
- Address
- City
- State
- Zip
- Latitude
- Longitude

The screenshot displays the Kofax software interface. At the top, a workflow diagram shows a sequence of steps: Load Page, Enter Address, Enter City, Select State, Enter Zip, Click Submit, Extract Address, Extract City, Extract State, Extract Zip, Extract Lat, and Extract Longi. Below this, a browser window titled 'Browser: Unnamed' shows the URL 'http://class.kofax.com/Postal/Zipcode.php'. The browser content displays 'Results From the Search' with a table of results. To the right of the browser window, a 'Variables' panel shows a 'StoreAddress' variable with fields for Storename, Address, City, State, Zip, Lat, and Longi, all populated with the search results. At the bottom, a code editor shows the following HTML snippet:

```
<td>Longitude</td>  
<td id="rLong">-75.502468</td>
```

## And Finally, a Return Value Step

- ◆ We'll add a Return Value Step and check the values in our Variables panel.



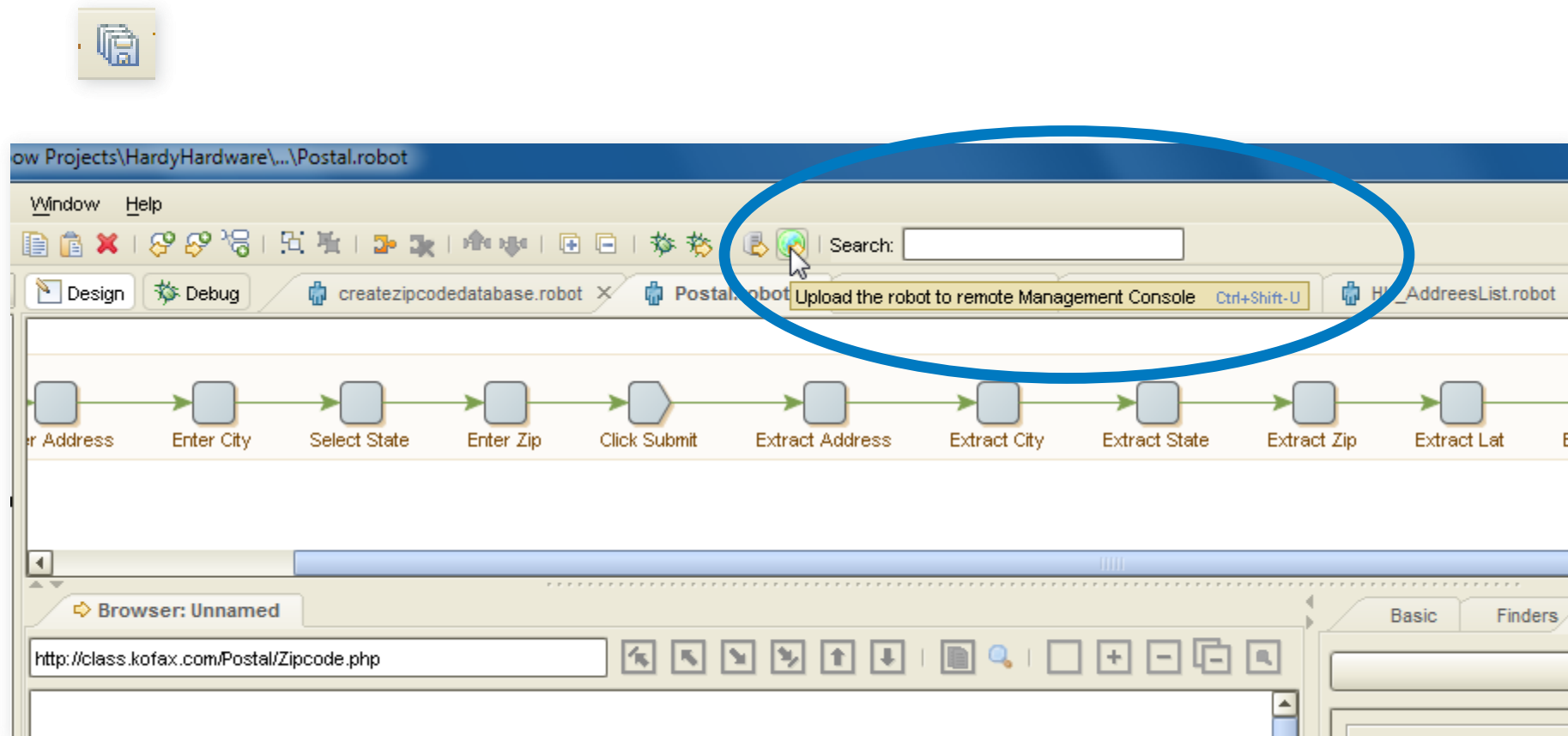
# Test in Debug Mode

The screenshot displays a workflow debugger interface. At the top, a sequence of steps is shown: Load Page, Enter Address, Enter City, Select State, Enter Zip, Click Submit, Extract Address, Extract City, Extract State, Extract Zip, and Extract Lat. Below this, the 'Input/Output' tab is active, showing the 'Input (Variables)' section with fields for Storename, Address (1350 Macarthur Road), city (Whitehall), State (PA), zip (18052), lat, and longi. The 'Output (Returned Values)' section shows a table with one row of data. A blue callout box points to the 'State' field in the input section.

#	Storename	Address	city	State	zip	lat	longi
1		1350 MACARTHUR RD	WHITEHALL	PA	18052	40.657236	-75.502468

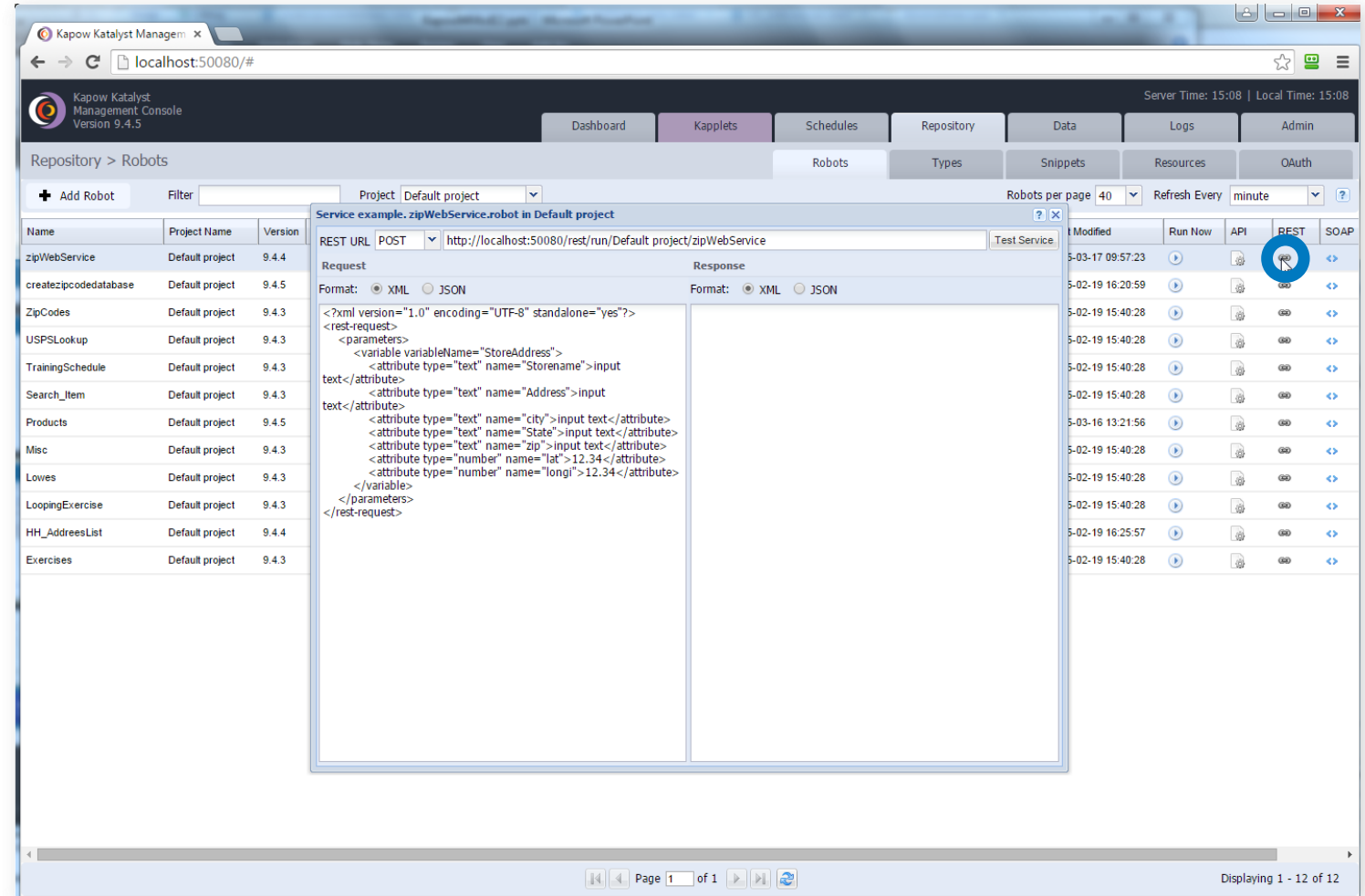
NOTE: Because the data contained on our fictional Post Office for this training class site has been limited to HardyHardware addresses only, you must enter a value that actually shows up on the HH website.

# Save Your Robot and Upload it to the Management Console



# To Test Your Robot as a REST Web Service...

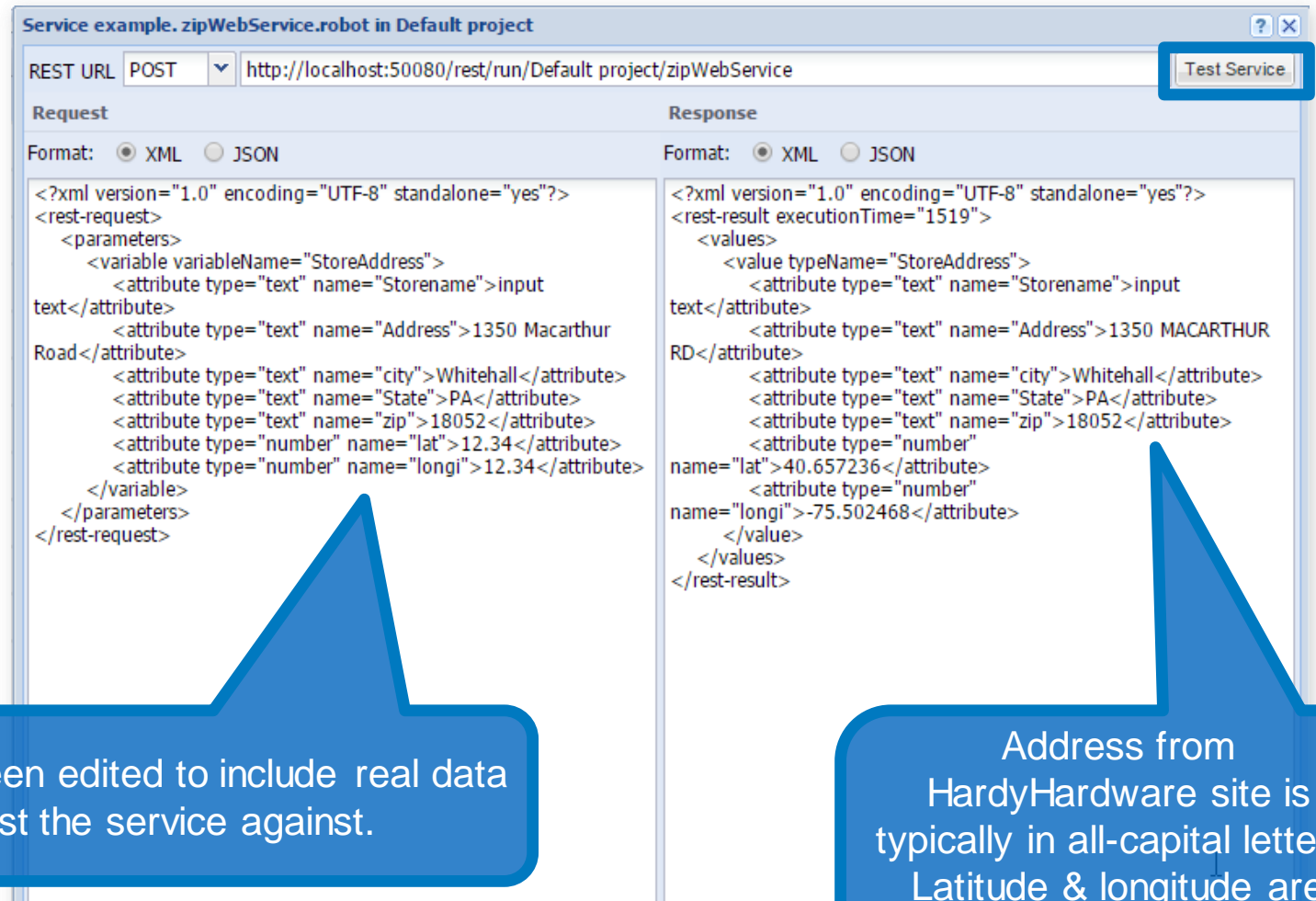
1. Open Management Console.
2. Select Robot and click on service type.
3. Verify REST URL
4. Select Request/Response formats
5. Modify Request to include require inputs as shown on the next slide





# Testing Web Service

- Once text has been modified to include required inputs, click the [Test Service] button.

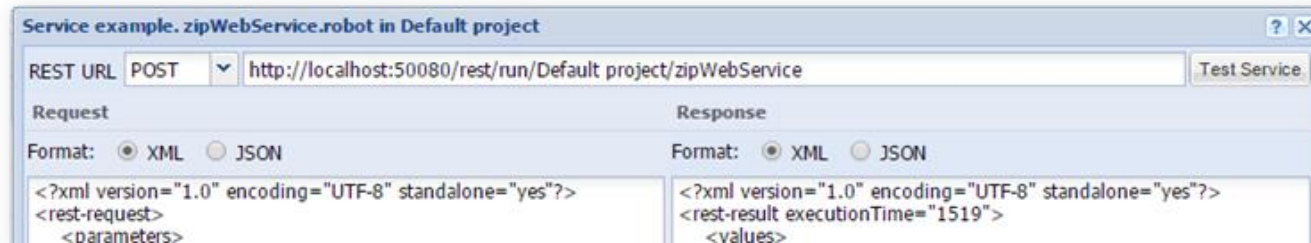


XML has been edited to include real data to test the service against.

This allows you to invoke a robot from any programming language, or directly from a browser using JavaScript.

Address from HardyHardware site is typically in all-capital letters. Latitude & longitude are returned as well. Our service works!

# About REST Services



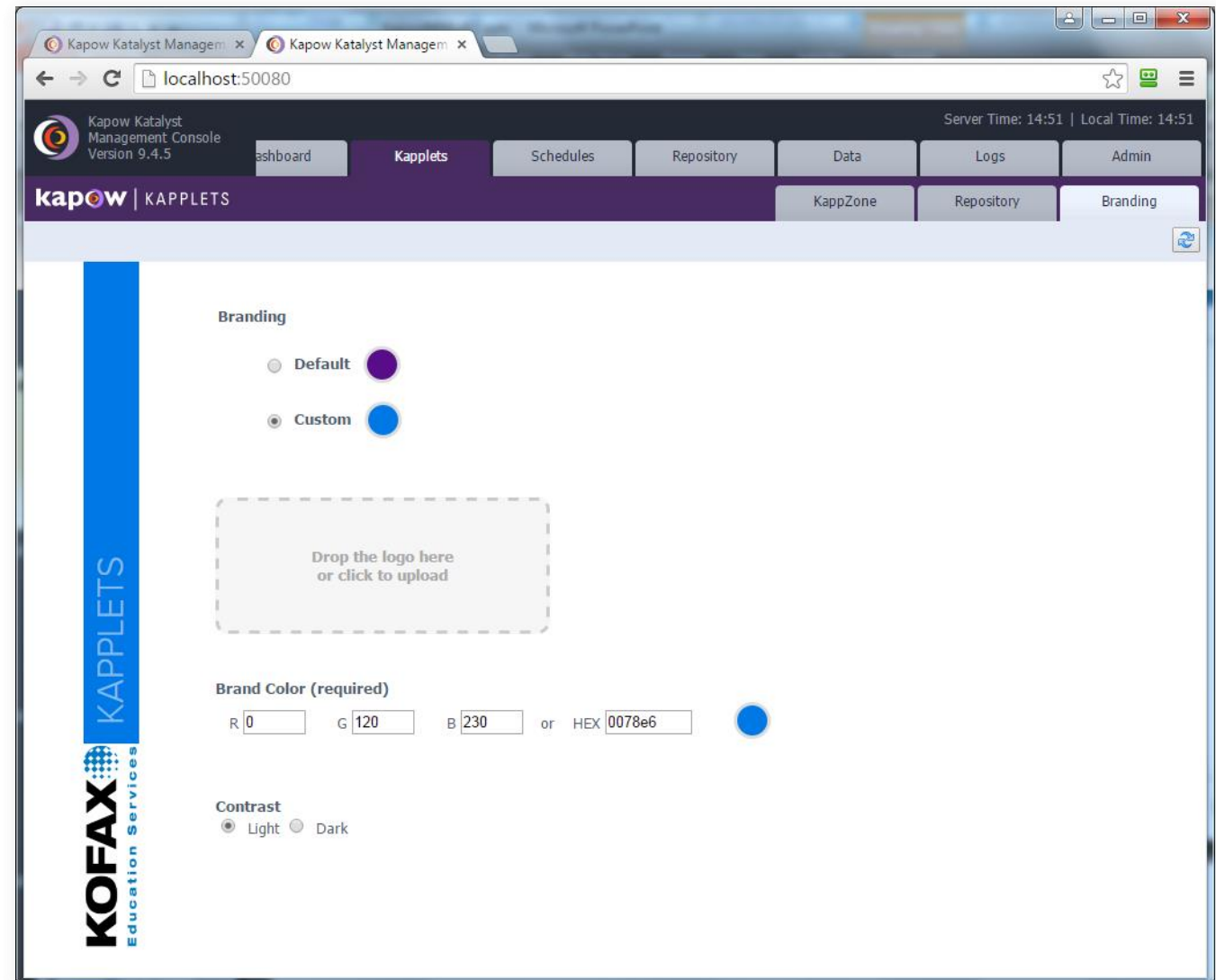
- ◆ The left-hand side of the service window allows you to construct a request. You then click the Test Service button in the upper right corner to execute the robot. The result is then displayed in the right-hand side of the window.
- ◆ The format buttons allow you to configure the formats of the request and responses while testing, but when you call the service from code, the format is controlled by the **Accept** and **Content-Type** HTTP headers. The Content-Type header specifies the request format, and the Accept header specifies the desired response format.
- ◆ Robots that require input must be invoked using POST. Robots without input may be invoked using either GET or POST.
- ◆ REST services are easily invoked from a robot by using the Call REST Web Service action (we'll do that in our next training module).

# Kapplets

- ◆ Kapow Kapplets expose a friendly user interface to robots. A Kapplet Administrator can make execution of one or more robots available to users who need not know anything about robots as they will interact with the robots through the provided Kapplet. A Kapplet can be customized to match the terminology of the end-users; an icon and a description can also be attached.
- ◆ A Kapplet is built and maintained by a Kapplet Administrator in the Kapplet Studio. When the Kapplet is ready for use it is made available for all Kapplet Users through the KappZone where the users can install the Kapplets into their individual My KappZone. Kapplet Users keep their own list of Installed Kapplets in My KappZone or bookmark Kapplets in their browser.

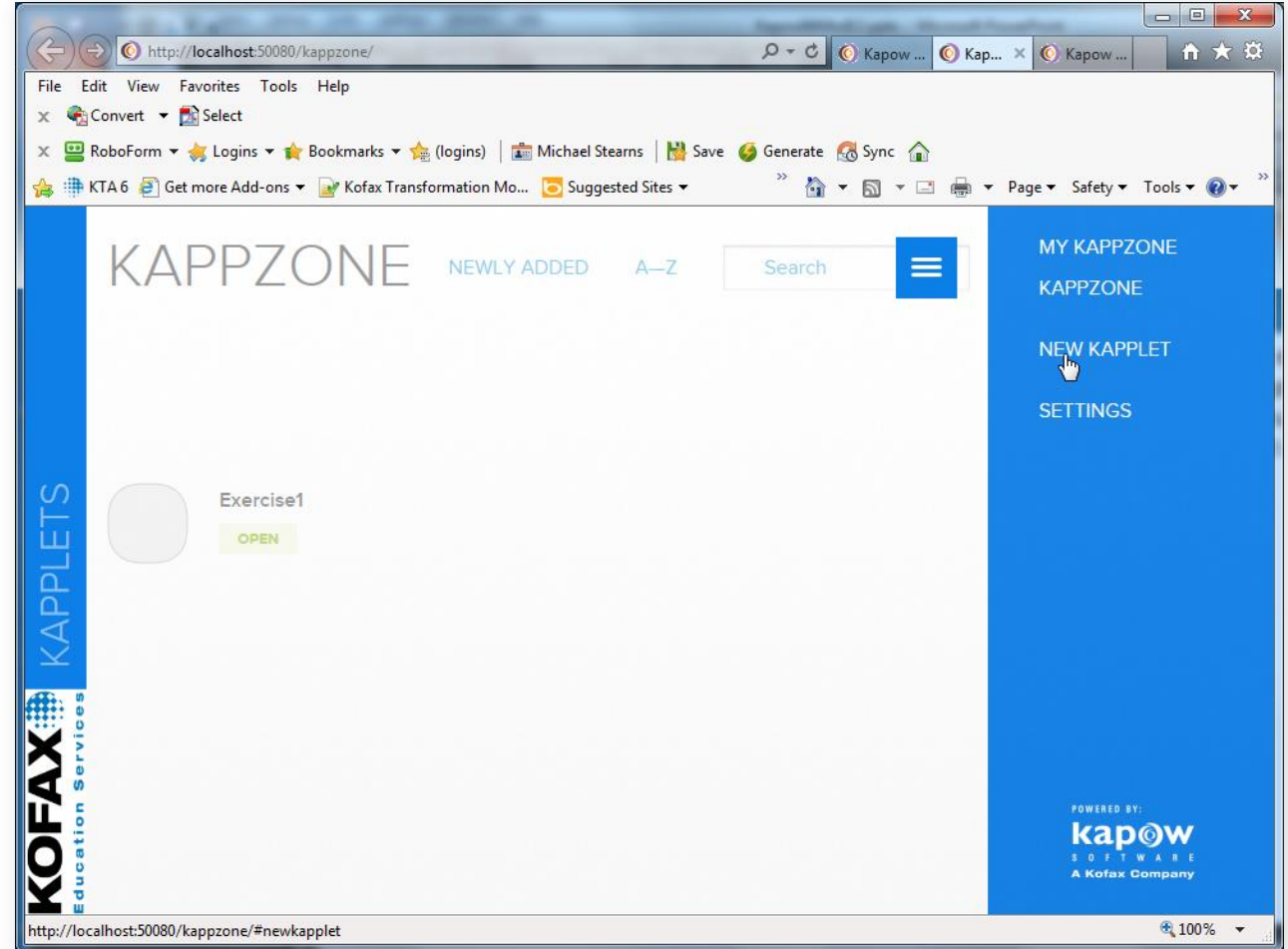
# Branding

- ◆ The "Branding" tab in the Kappzone Window (available from the Management Console) will allow you to add custom colors and logos.

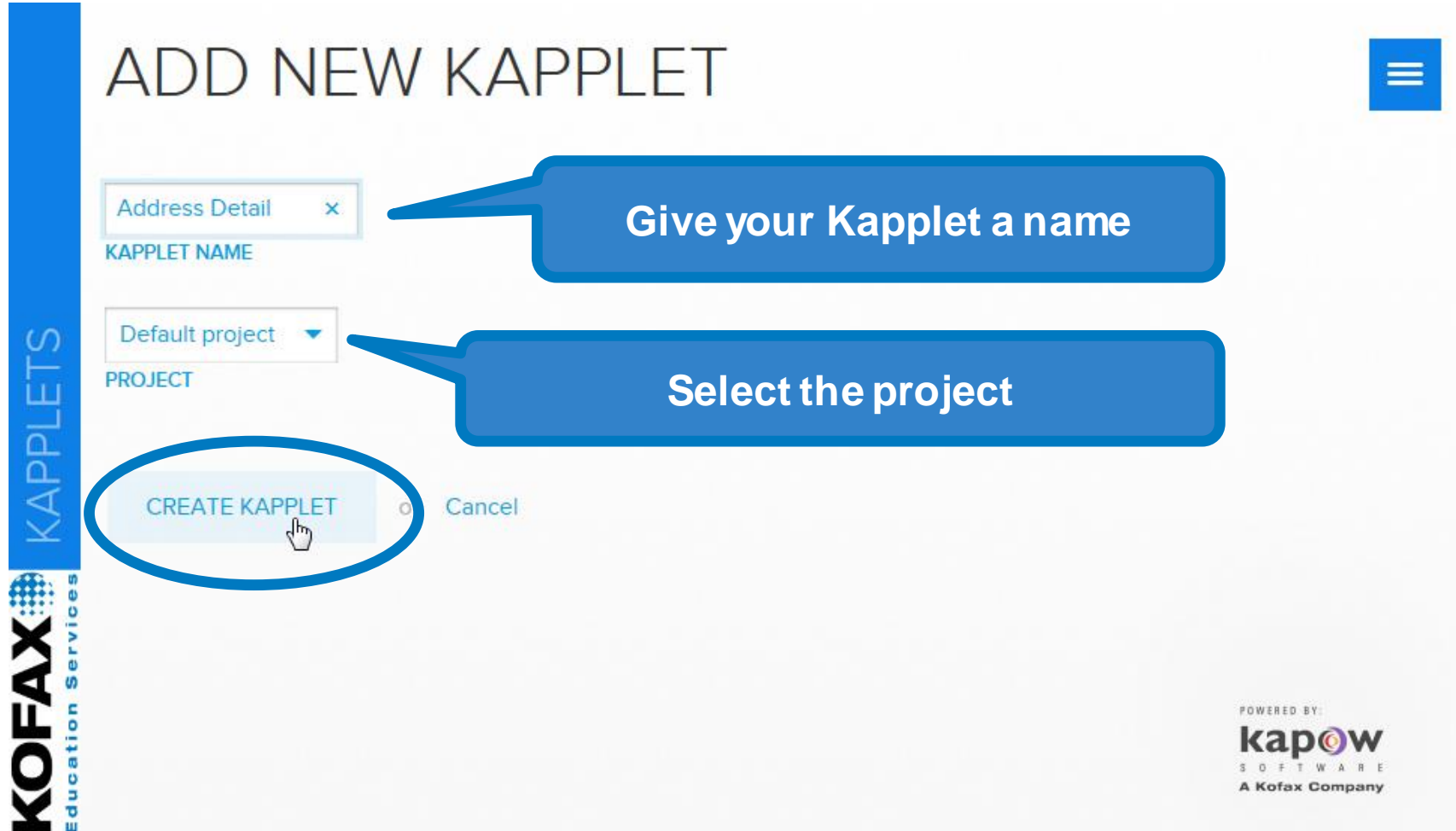


# Creating a Kapplet

- ◆ A Kapplet Administrator can create a new Kapplet from the Kapplet User area, i.e. from the KappZone either by clicking the 'Add New Kapplet' button or by clicking the 'New Kapplet' item of the Main Navigation Menu. This opens the Add New Kapplet page where a new Kapplet can be named and associated with an existing project.



# Adding a New Kapplet



The screenshot shows the 'ADD NEW KAPPLET' interface. On the left is a vertical blue sidebar with the text 'KAPPLETS' and the 'KOFAX Education Services' logo. The main form area has a title 'ADD NEW KAPPLET' and a hamburger menu icon in the top right. There are two input fields: 'Address Detail' with a close button (labeled 'KAPPLET NAME') and 'Default project' with a dropdown arrow (labeled 'PROJECT'). Below these are two buttons: 'CREATE KAPPLET' and 'Cancel'. A blue oval highlights the 'CREATE KAPPLET' button, and a blue callout bubble points to it with the text 'Give your Kapplet a name'. Another blue callout bubble points to the 'Default project' dropdown with the text 'Select the project'. In the bottom right corner, there is a logo for 'POWERED BY: kapow SOFTWARE A Kofax Company'.

**ADD NEW KAPPLET**

Address Detail ×  
KAPPLET NAME

Default project ▾  
PROJECT

CREATE KAPPLET Cancel

**KOFAX** Education Services

POWERED BY:  
**kapow**  
SOFTWARE  
A Kofax Company

# Edit Additional Kapplet Properties

The screenshot shows the 'EDIT KAPPLET' interface with the 'IDENTITY' tab selected. The interface includes a sidebar with 'KAPPLETS' and 'KOFAX Education Services' logos. The main content area has sections for 'Address Detail', 'KAPPLET NAME', 'Default project', 'PROJECT', 'DESCRIPTION', and 'ICON'. A blue callout bubble points to the 'DESCRIPTION' field, stating 'Add optional comments'. Another blue callout bubble points to the 'ICON' field, stating 'You can even add a custom icon!'. A file upload dialog is open over the 'ICON' field, showing a list of files in the 'Resources' folder. The file 'KofaxIcon.png' is selected. The dialog has a 'File name' field containing 'KofaxIcon.png' and a file type dropdown set to 'All Files (\*.\*)'. The 'Open' button is highlighted.

**EDIT KAPPLET** IDENTITY PAGES **APPLY CHANGES** ☐ Not published

**KAPPLETS**

**KOFAX** Education Services

Address Detail

KAPPLET NAME

Default project

PROJECT

DESCRIPTION

ICON

Click here to browse for icon...

**NEXT STEP**

To add functionality to the Kapplet, simply add robots to the start dialog on [the start page](#)

Choose File to Upload

Organize New folder

hMailServer

HP Server Drivers

ImgBurn

Instructor System Backup

Kaiser Permanente

Kapow Training

Kapow 9.4 Training CBT

Guitars

Labs

PowerPoints

Resources

Kapow 9.4 Installation Software

Name

Kapow94 - Data Input.pdf

Kapow94 - Data Output.pdf

Kapow94 - Looping and Iteration.pdf

Kapow94 - Range Finders.pdf

Kapow94 - Regular Expressions Tuto

Kapow94 - Tag Finders.pdf

Kapow94 - Training Preparation.pdf

Kapow94 - Value Selectors.pdf

KofaxIcon.png

trainingzipcodes.xlsx

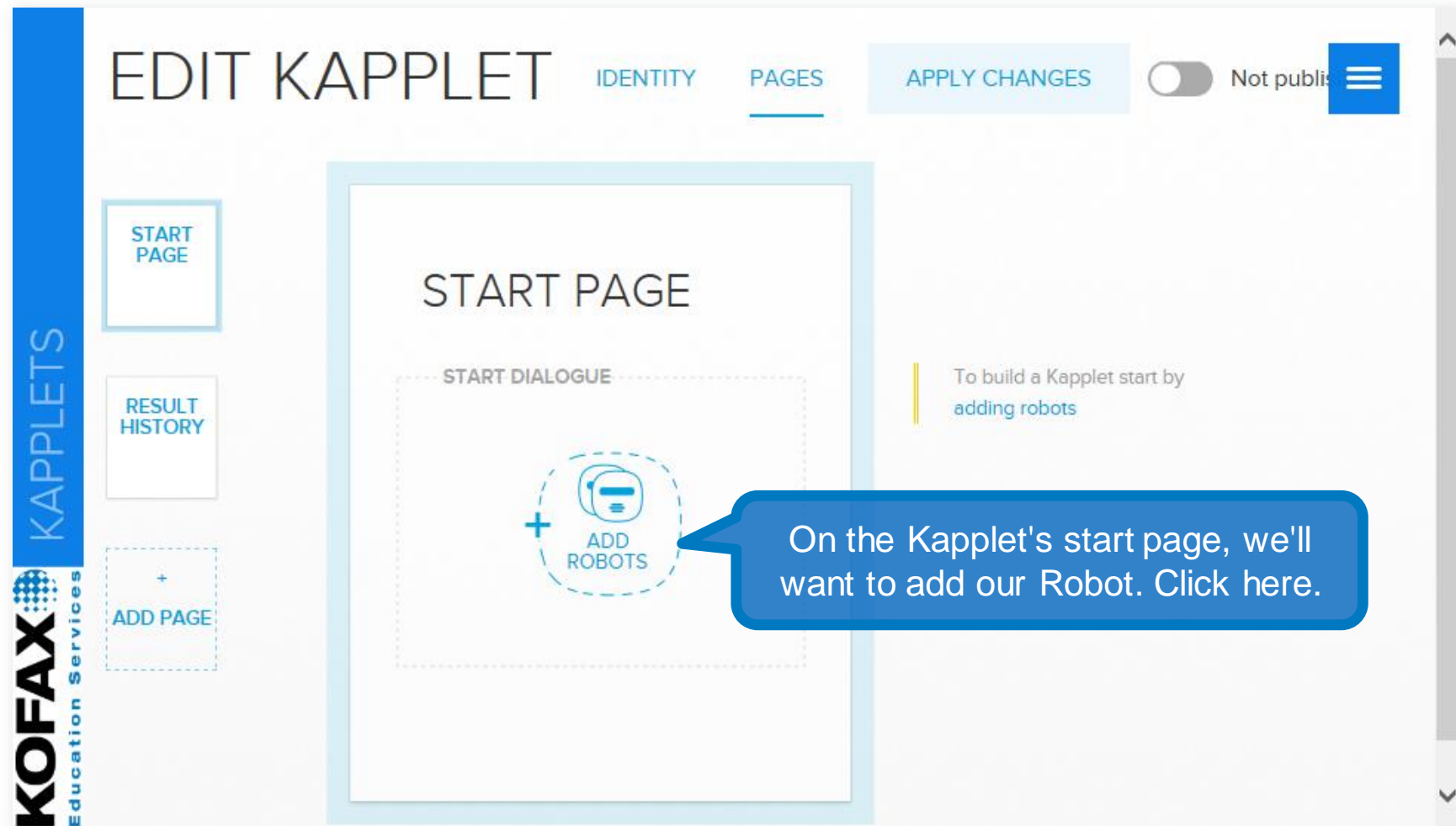
File name: KofaxIcon.png

All Files (\*.\*)

Open Cancel

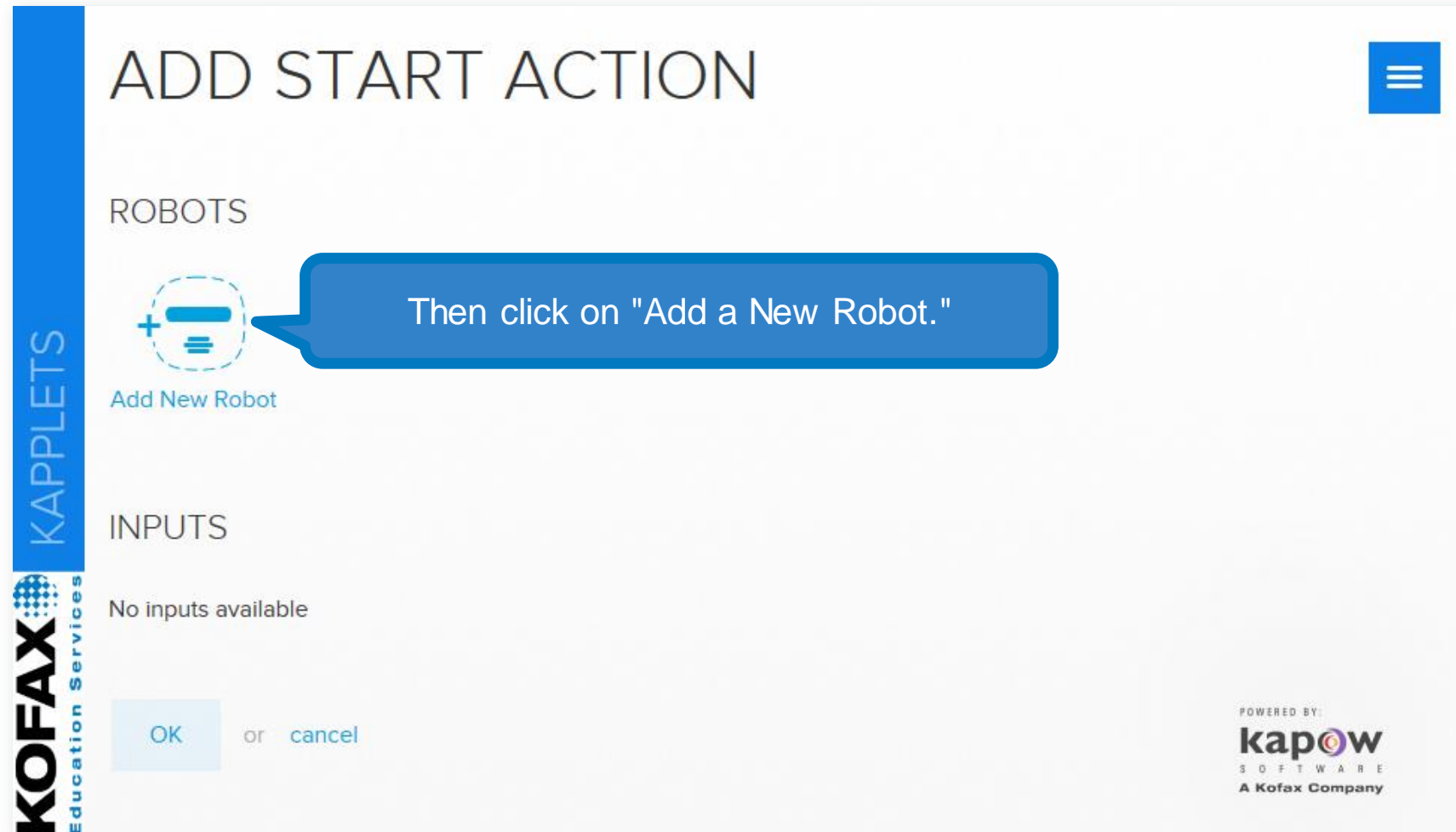


# Edit Kapplet Start Page – Add Robots

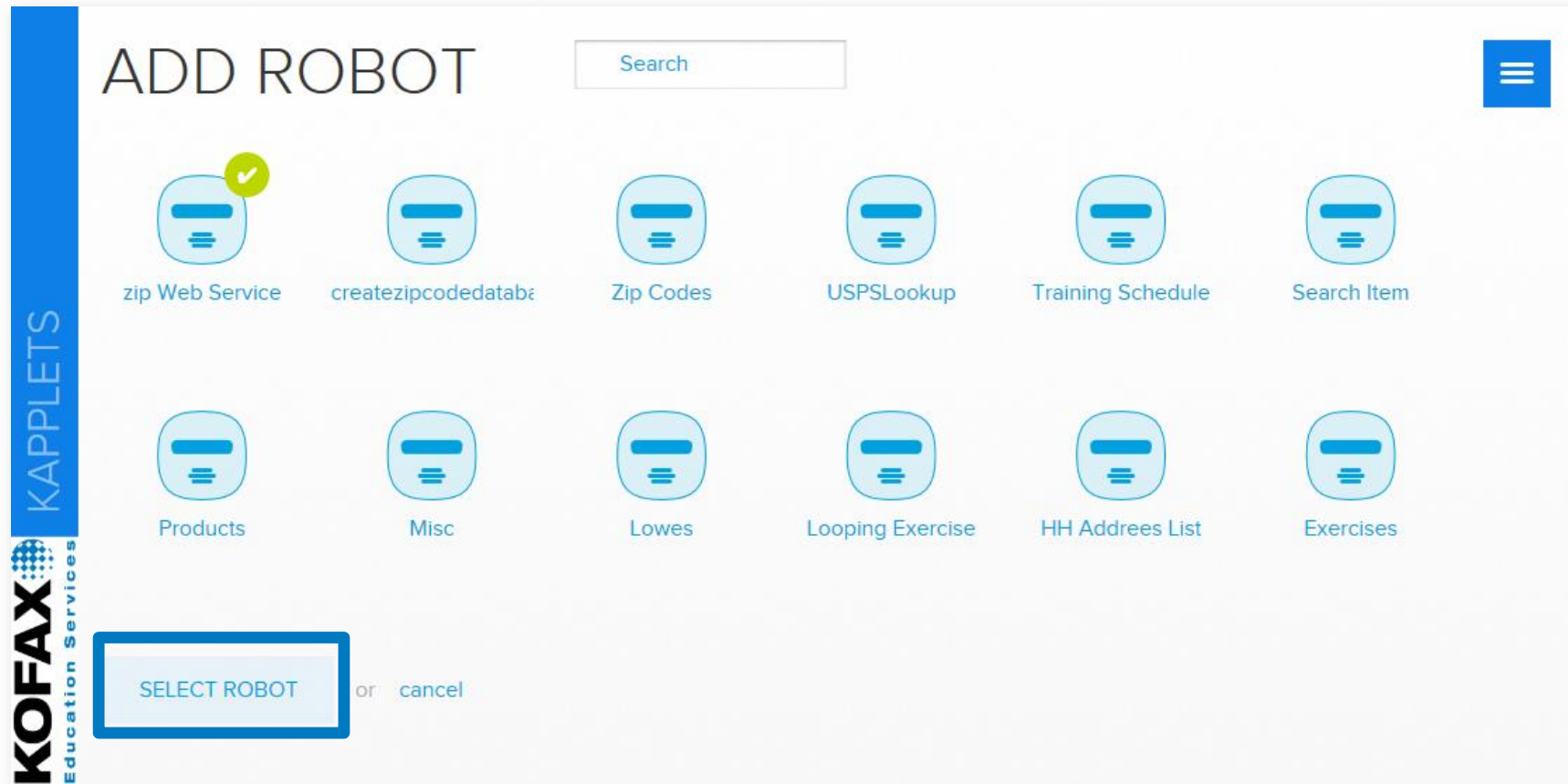




# Add Start Action – Add a New Robot



# Select Robot(s)



# Add Start Action

- ◆ The variables are either provided by user input or by a fixed value. The user will input the address, city, state and zip. The others (store name, latitude and longitude) will be a fixed value which we will leave blank.

**ADD START ACTION**

**ROBOTS**

zipWebService Add New Robot

**INPUTS**

StoreAddress (zipWebService) where

Storename is fixed value

Address is user input

city is user input

State is user input

zip is user input

lat is user input fixed value

longi is user input

**KOFAX** KAPPLETS Education Services

POWERED BY: **kapow** SOFTWARE A Kofax Company

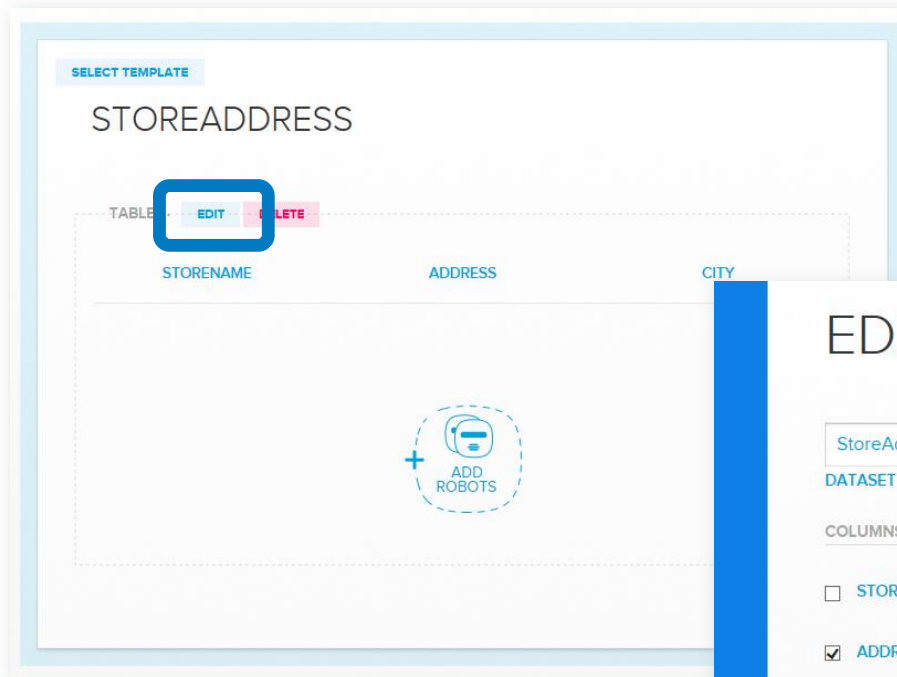
# Edit the Output Variables

- After clicking [OK], we can see what our Kapplet looks like. At this point, we'll [Apply Changes] and click on the "Not published" toggle at the top to publish our Kapplet.

The screenshot shows the 'EDIT KAPPLET' interface with the 'PAGES' tab selected. On the left sidebar, there are buttons for 'START PAGE', 'RESULT HISTORY', 'STORE ADDRESS', and 'ADD PAGE'. The 'STORE ADDRESS' button is highlighted with a blue arrow pointing to a callout box. The main area displays the 'START PAGE' configuration, which includes a 'START DIALOGUE' section with an 'EDIT' button. Below this, there are input fields for 'ADDRESS', 'CITY', and 'ZIP', followed by a 'START KAPPLET' button. A text box on the right explains that the start dialog is executed when the start button is pressed. The top of the interface includes an 'APPLY CHANGES' button and a 'Not published' toggle switch.

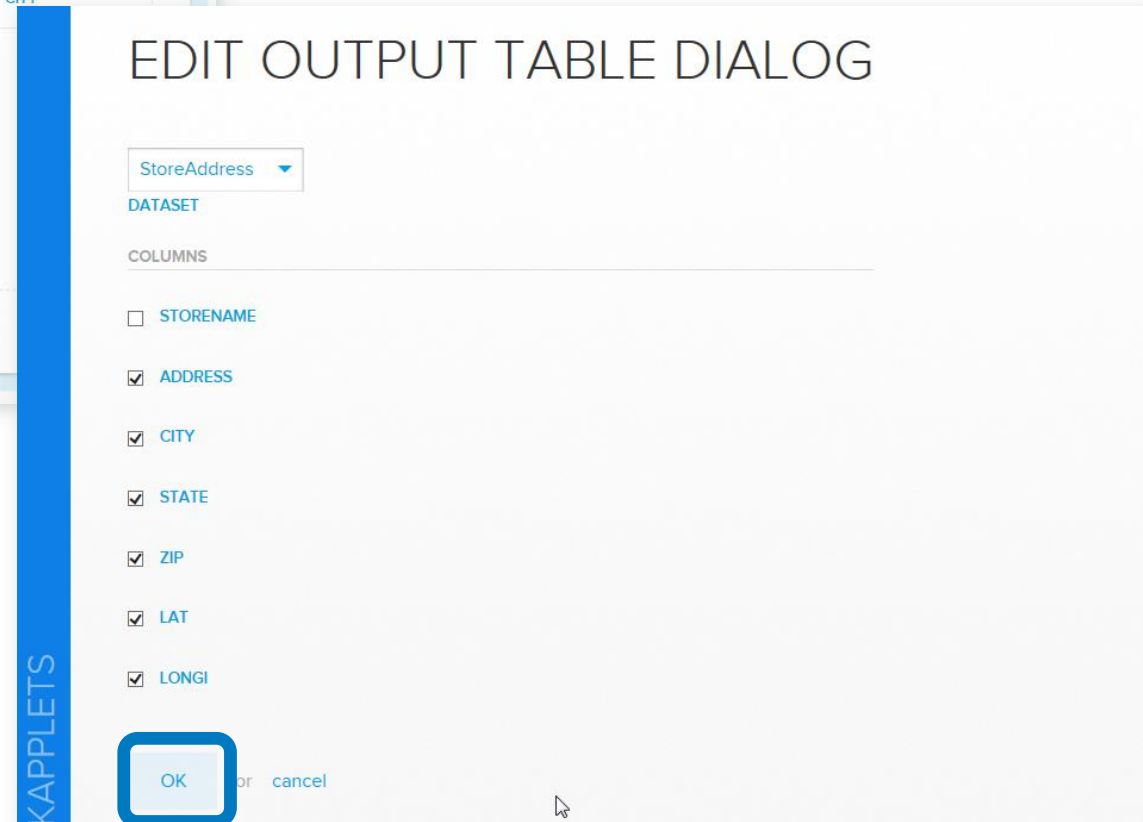
Then click on the "Store Address" to tell the Kapplet which results to return (by default, it only returns the first two values).

# Set Return Values



Click on the "Edit" tab.

And select which values you want to output to the table.



# Apply Changes and Publish Kapplet

EDIT KAPPLET

IDENTITY PAGES

APPLY CHANGES

Not published

START PAGE

RESULT HISTORY

STORE ADDRESS

ADD PAGE

SELECT TEMPLATE

STOREADDRESS

Click on [Apply Changes]

Publish using the toggle

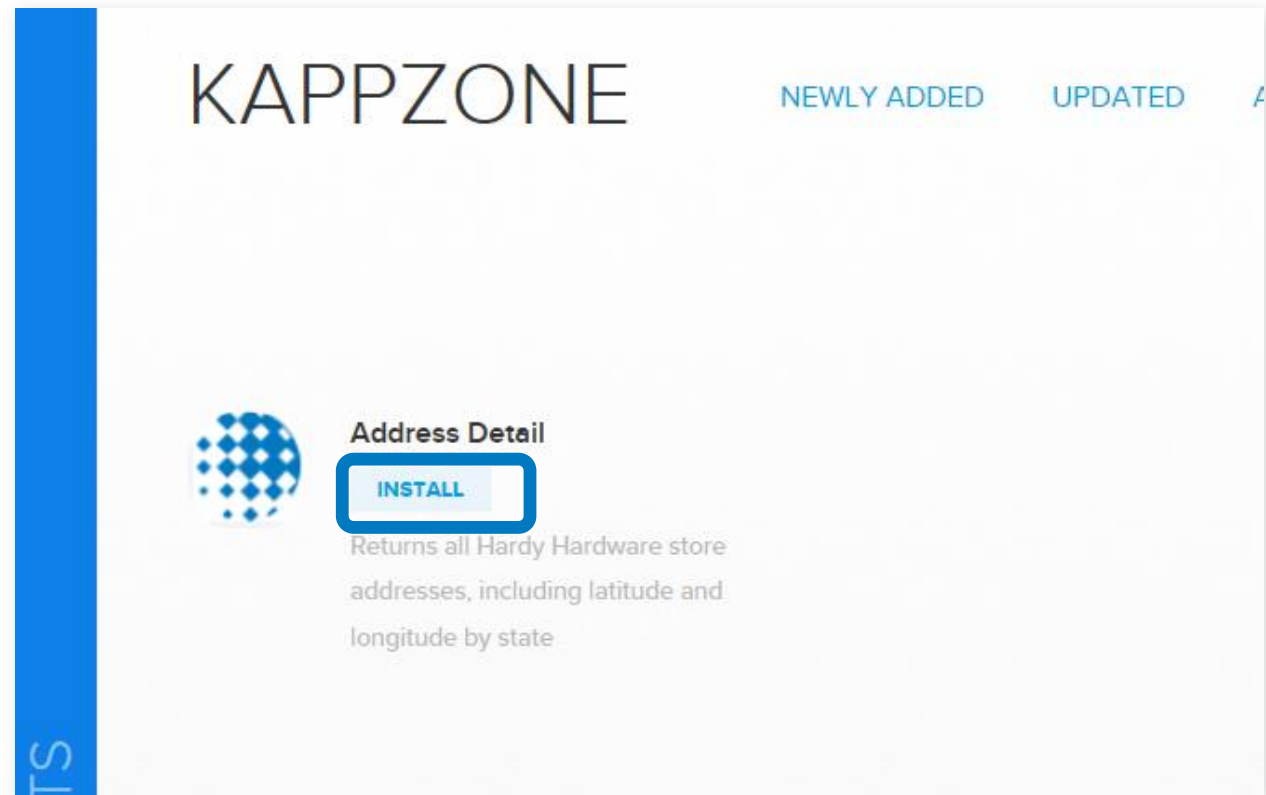
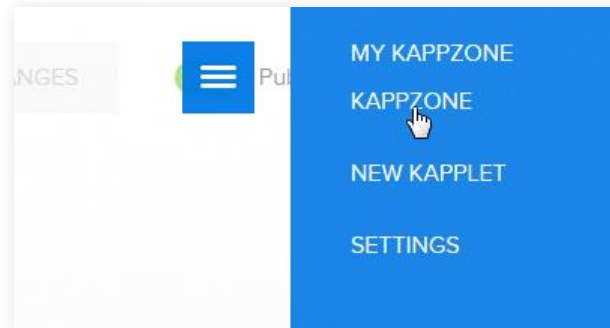
TABLE EDIT DELETE

ADDRESS	CITY	STATE	ZIP	LAT	LONGI
---------	------	-------	-----	-----	-------

ADD ROBOTS

# Install Kapplet

- Now that the Kapplet has been published, it must be installed. If we select "Kappzone" from the main menu, we'll see all published Kapplets. Click on "Install" to install the Kapplet.



# Open Kapplet and then Run Kapplet

- Clicking on [Open] opens the Kapplet. After providing the input values, the user simply clicks on [Start Kapplet].

ADDRESS DETAIL  
START PAGE

1350 Macarthur Road  
ADDRESS

Whitehall  
CITY

I  
STATE

ZIP

☐ Schedule run

START KAPPLET

RESULT HISTORY

POWERED BY:  
**kapow**  
SOFTWARE  
A Kofax Company



# Result History

- ◆ Result history may be viewed by clicking on the links on the right of the page. Notice that errors are reported if any occurred.

The screenshot displays the KAPPLETS web interface. On the left, a vertical blue bar contains the text "KAPPLETS" and "KOFAX Education Services". The main content area is titled "ADDRESS DETAIL" and "START PAGE". It features four input fields: "ADDRESS" (containing "1350 Macarthur Road"), "CITY" (containing "Whitehall"), "STATE" (containing "PA"), and "ZIP" (containing "18052"). Below these fields is a "Schedule run" toggle switch and a "START KAPPLET" button. On the right side, a "RESULT HISTORY" panel is highlighted with a blue border. It shows two entries: "19 MAR 15, 09:37" with the address "1350 Macarthur Road , Whitehall , PA , 18052", and "19 MAR 15, 09:35 — RUN WITH ERRORS" with the address "1350 Macarthur Rd , Whitehall , PA , 18052". A blue arrow points to the right of the result history panel. The bottom right corner of the interface says "POWERED BY: kapow SOFTWARE A Kofax Company".

# Results Displayed

RESULT HISTORY

19 MAR 15, 14:30  
1350 Macarthur Road , Whitehall , PA , 18052

ADDRESS	CITY	STATE	ZIP
1350 MACARTHUR RD	Whitehall	PA	18052

Clicking on the forward arrow will scroll the page to the right to display latitude and longitude.

Congratulations! Now you know how to create a Kapplet.

1 row Save as Excel

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# Demo & Lab

## Web Services