Kofax Kapow 10.3 Training and Certification

Module 15 – Basic Device Automation

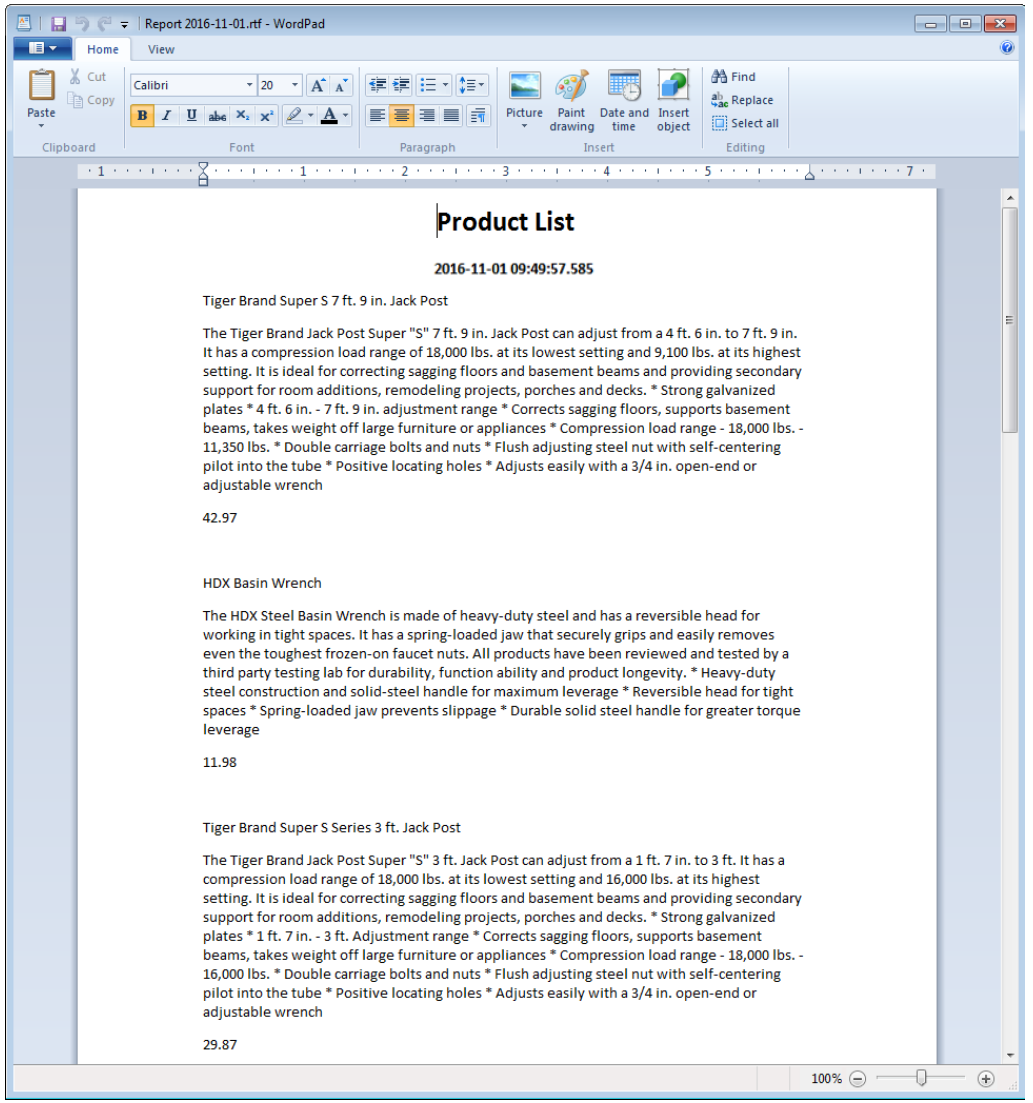
Opening and Closing Windows Applications

Kofax Kapow™

KOFAX

What You Will Be Doing…

In the next couple of training modules, you will be creating a Device Automation robot that takes data generated by a robot you created earlier in class (your search item robot) and from that data, generates a summary report using Microsoft WordPad on a remote desktop system.



How is Device Automation Different?

Web Automation

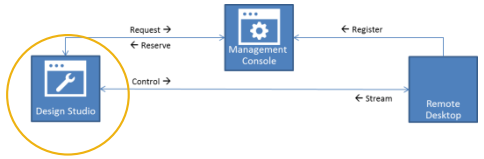
- Target application runs in our built-in browser which we control
- Typically the state is in the browser until you have performed a transaction
- You can start a new session with the web server
- You can have multiple concurrent sessions with a web server

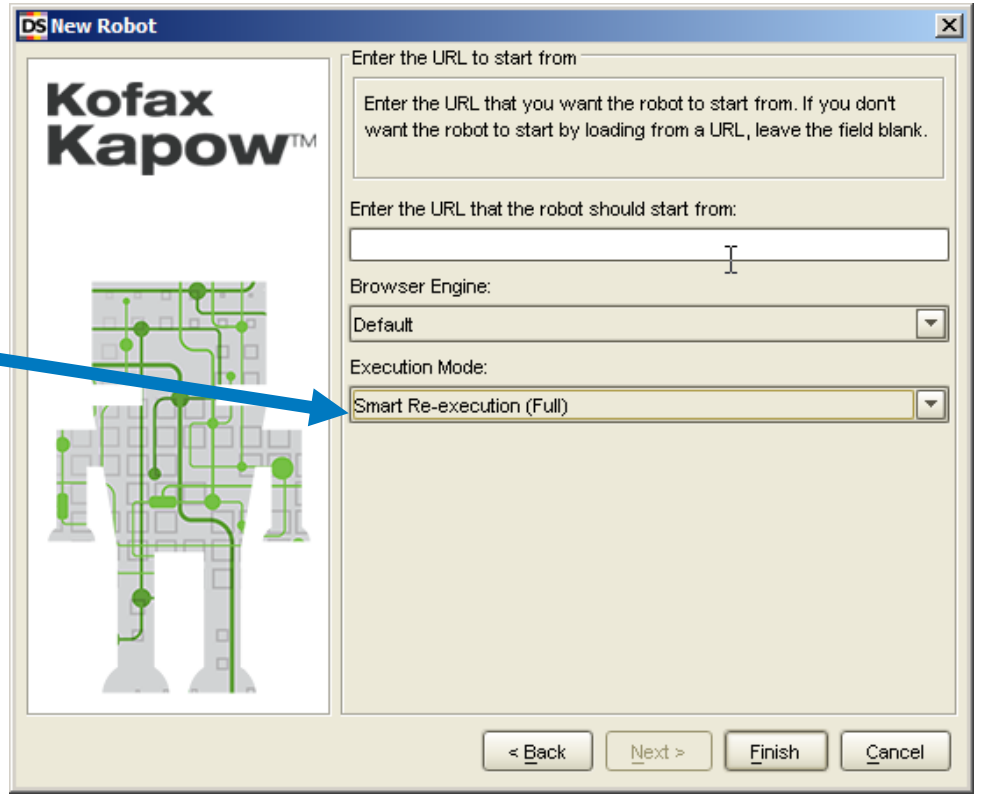
Desktop Automation

- Target application runs on a remote desktop
- The state is on the Desktop at all times – every interaction is a transaction
- You have to clean up the state of the desktop before finishing your session
- You can only have one session at the time with a desktop

Building a Device Automation Robot in Design Studio

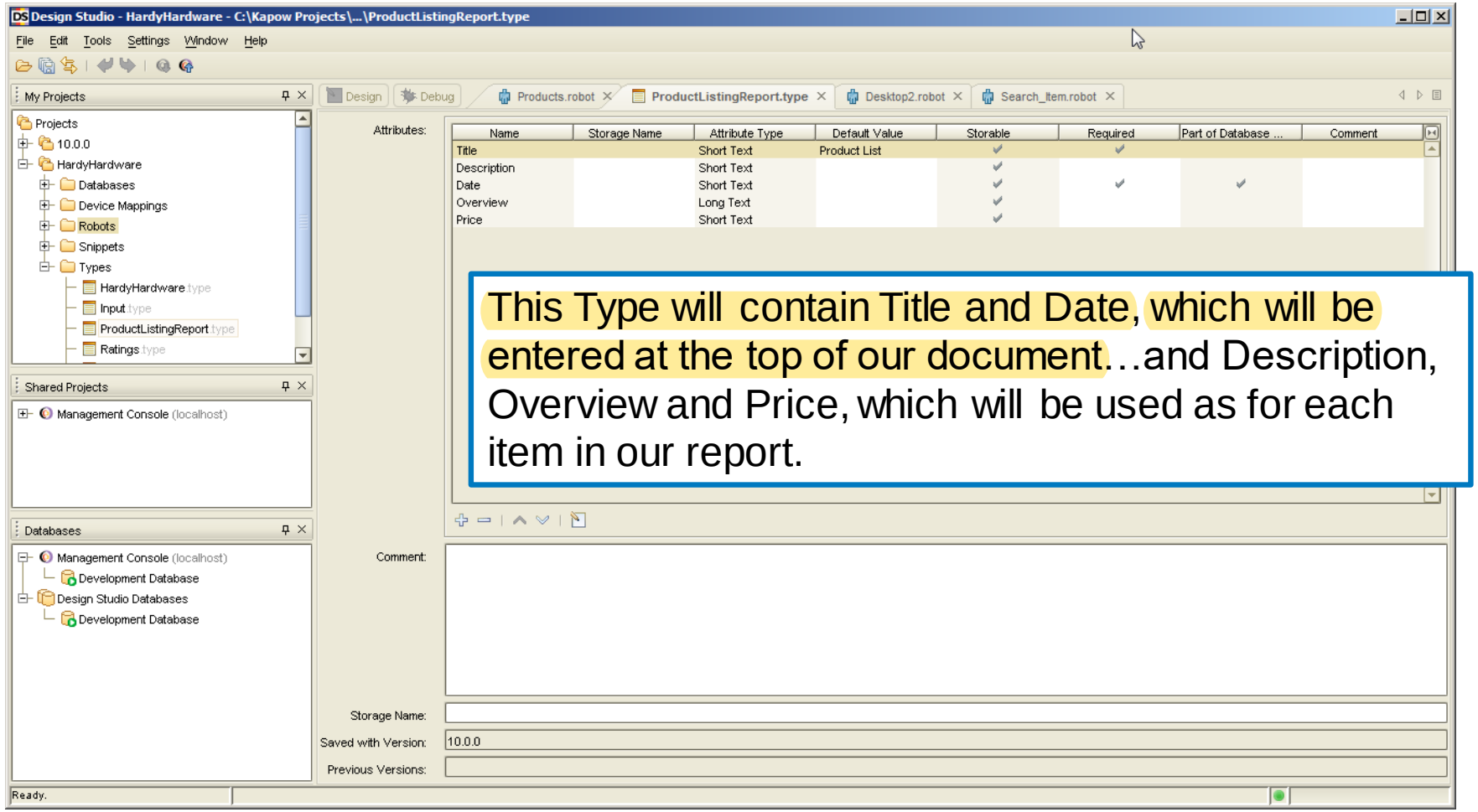
1. Create a new Project (or you may add to an existing Project)
2. Create Types if necessary
3. Create an Automation Device Mapping
4. Create a new Robot in Smart Re-execution mode
5. Create a Robot that contains one or more Device Automation Steps



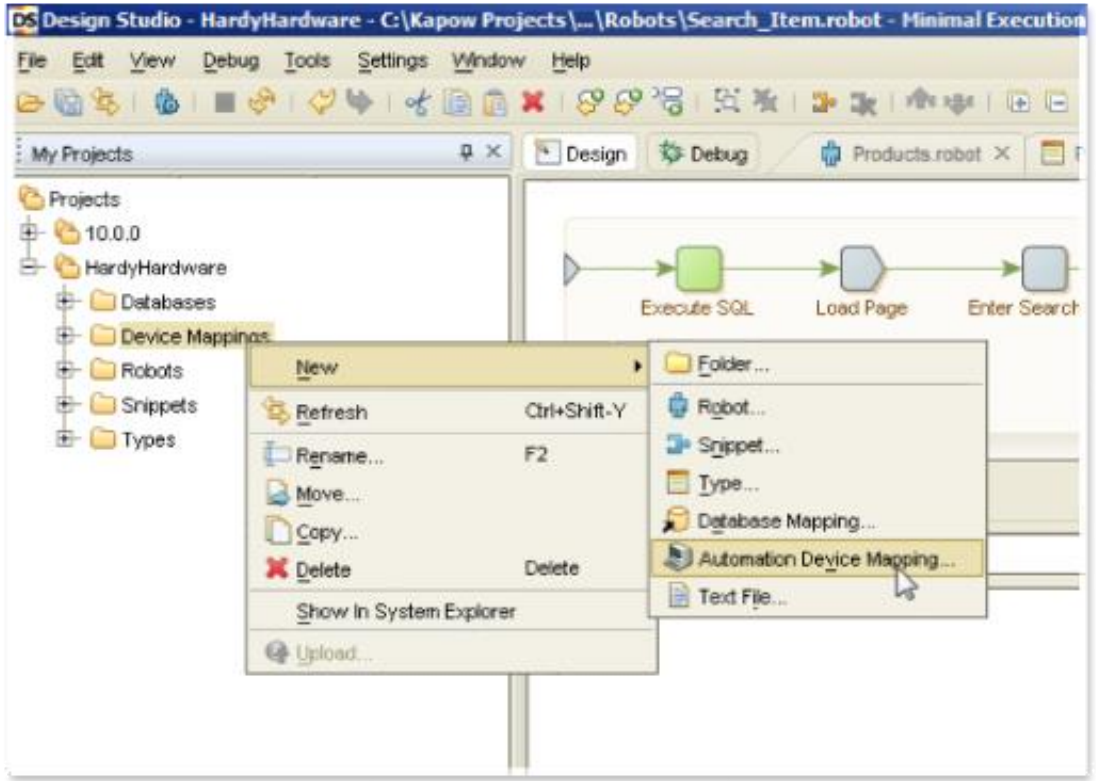


Create Types if Required

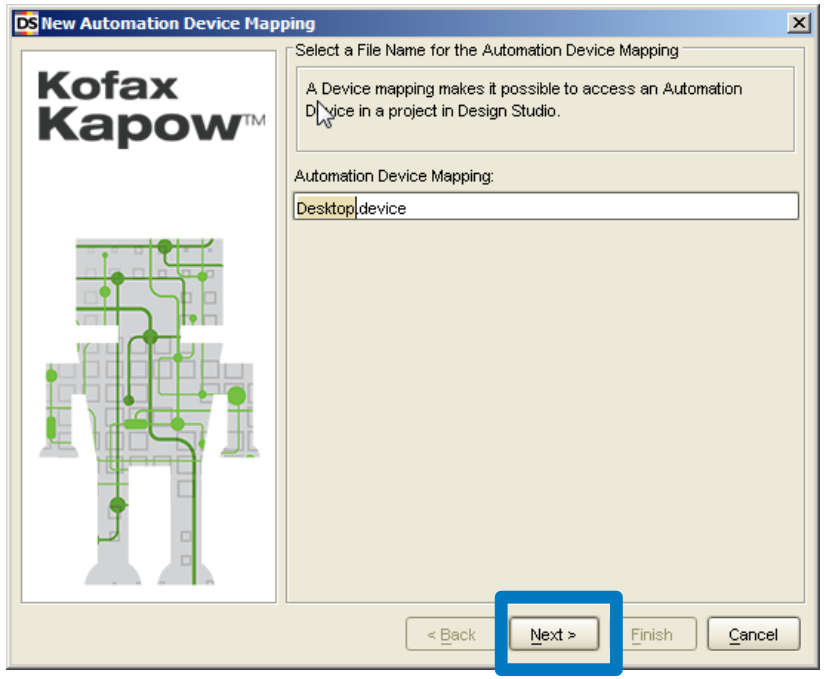
- Type: ProductListingReport



Create New Automation Device Mapping



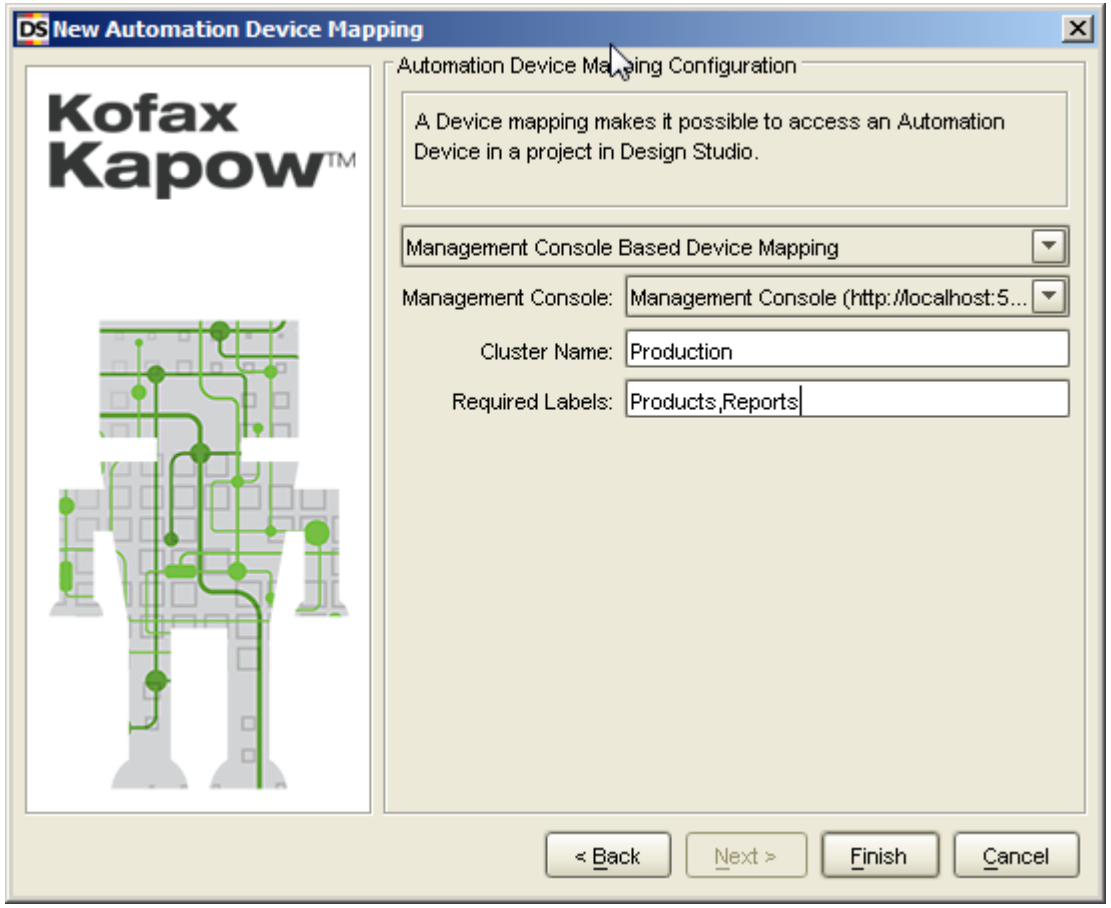
Devices that have been registered with the Management Console need to be mapped in your Project.



The first screen of the wizard allows you to name your device mapping. This will create a file with the .device extension.

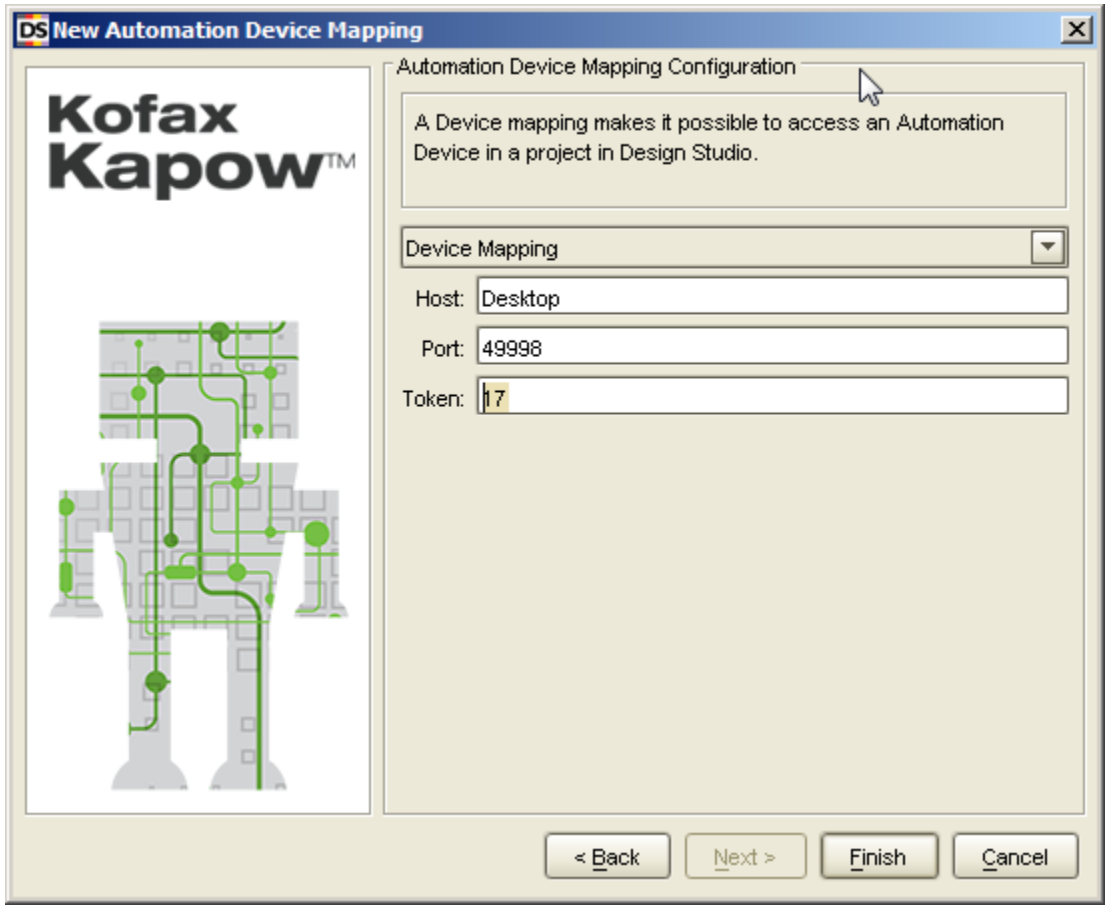
Set Properties for “MC Based Device Mapping”…or..

- Note: Cluster Name and Labels must match what has been registered in the Management Console.



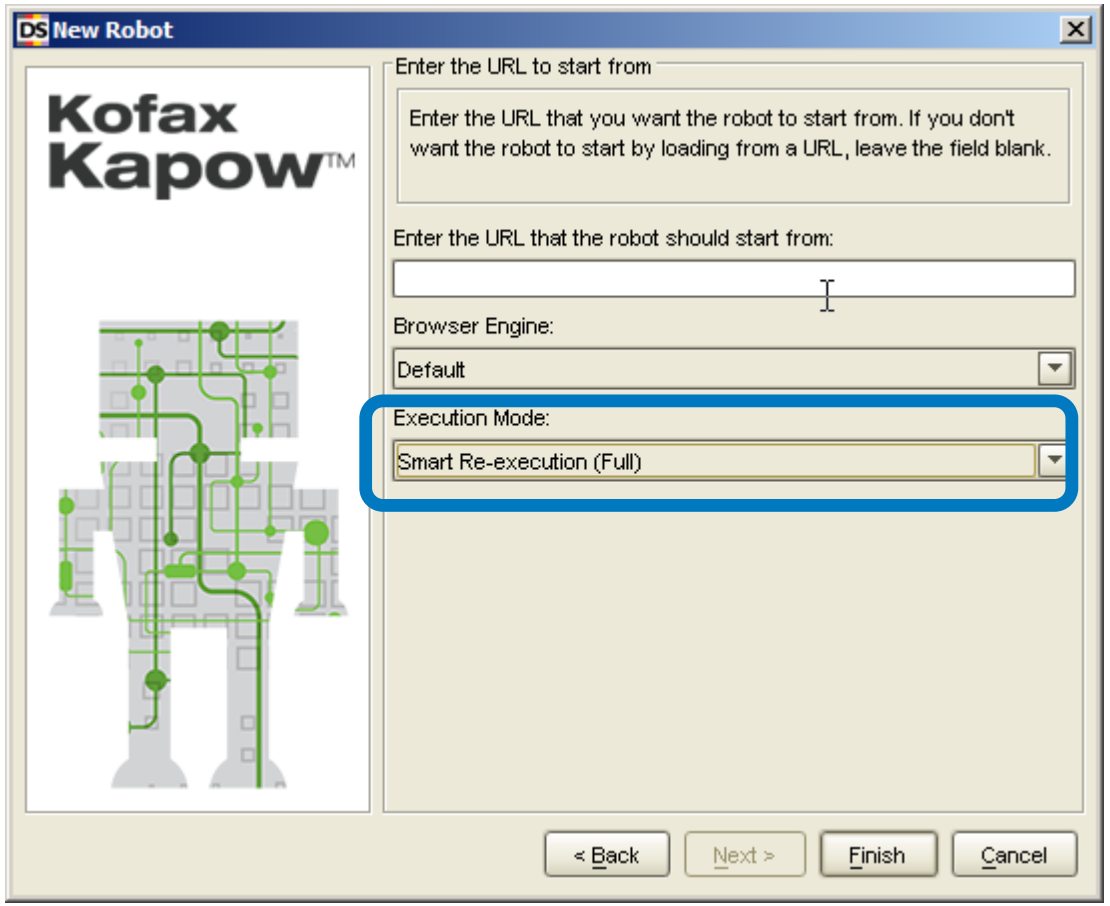
Set Properties for "Device Mapping'

- This is a direct connection without the Management Console and is typically used for testing only.



Then Create a New Robot

- Smart Re-execution (Full) mode must be selected for robots that contain Device Automation Steps.



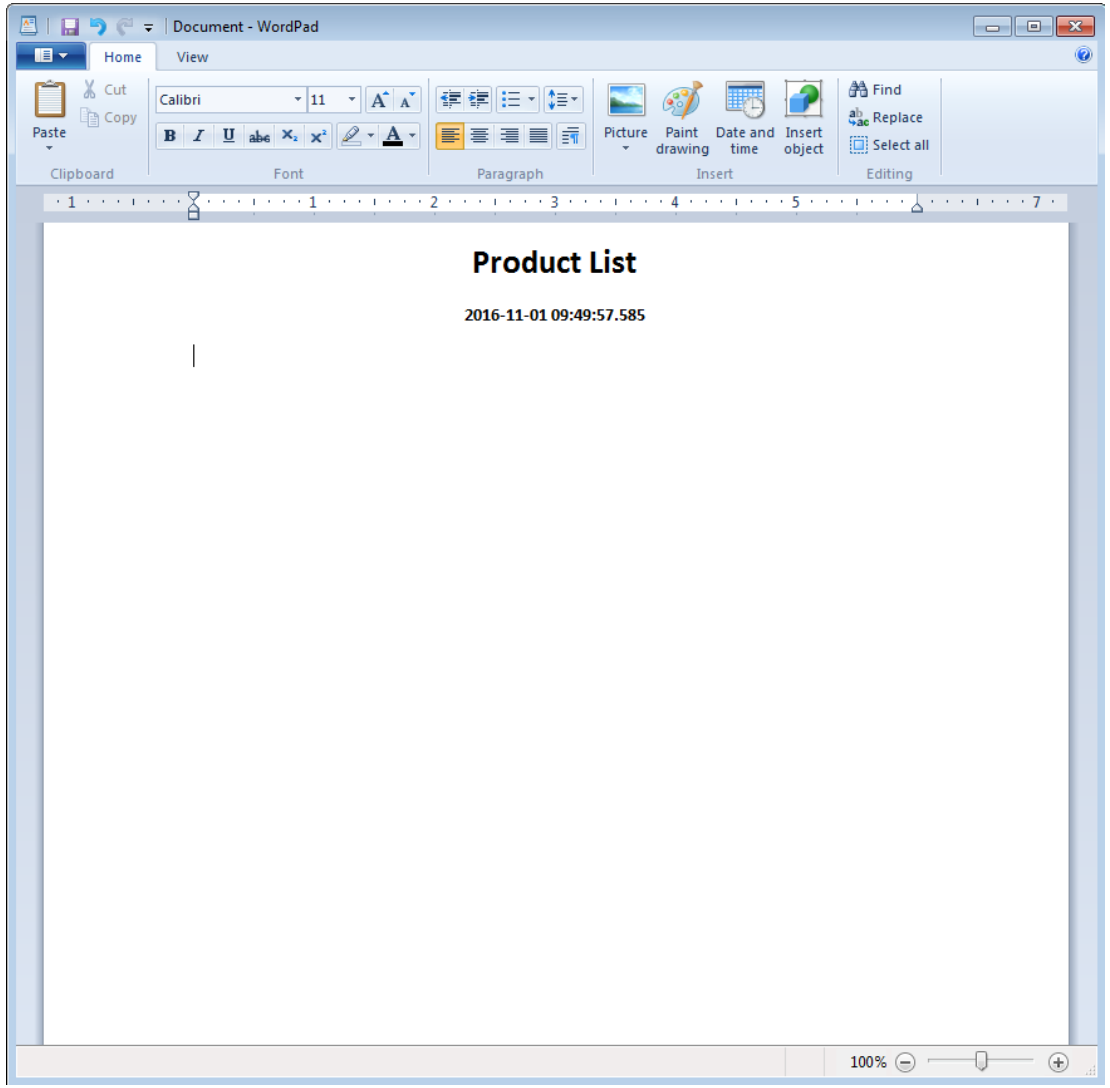
What We Will Do in this Introductory Training Module

- When creating a Device Automation Robot, it's often useful to step through what you want to accomplish as a human operator.
  - This will help you correctly configure the steps in your robot.
  - Take notes as you go along.
- We will simply pick up the system date and time.
  - This will be used in the heading of our document
  - It will also be used to save our report with a unique name so you can rerun the robot to create a new, uniquely named report each time you run it…without overwriting the previous ones.
- In this module, we will only open WordPad on our remote system, and write the title information including the date and time of the report.

We Will Create a Device Automation Step to…

- …simply open WordPad on our remote system and format and enter the title information as show in this screenshot.

- This might seem simple on the surface, but if you took notes on what you would do as a human, they might look like this…

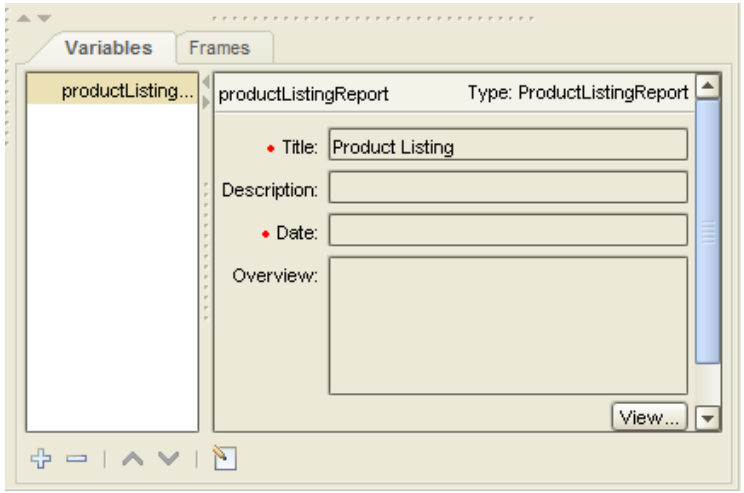


Here's What a Human Does

- Go to the remote desktop and open WordPad
- Move mouse to the Select Font Size button, click it, move the mouse and select 20 point font
- Move mouse to Bold Text button and click it
- Move mouse to the Center Text button and click it
- Enter title on document
- Move mouse to the Select Font Size button, click it, move the mouse and select 11 point font
- Press the [Enter Key] once to create a new line
- Enter the date and time on the document
- Press the [Enter] key twice to create a double space
- Move the mouse to Left Align Text button and click it

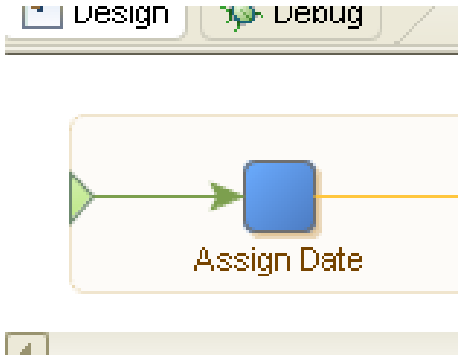
But First…Let's Add Our Variables

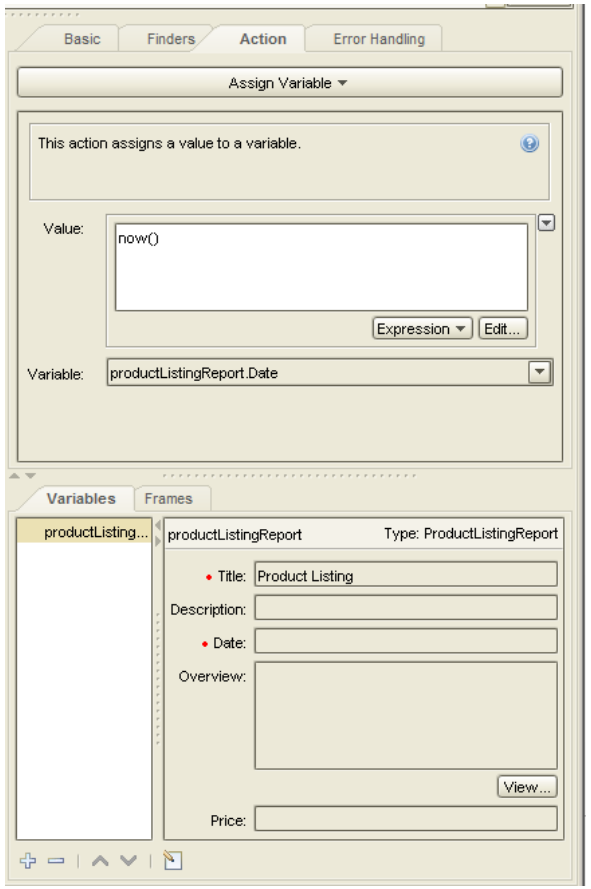
- First, we will add a variable from our available complex types:
  - ProductListingReport Type
    - Default Value for "Title" will be set to "Product Listing"
    - "Date" will be used to contain "date()." This will return the current system date
    - The other three items in our variable match data in our HardyHardware table created by our Search_Item robot.



Assign Variable Step

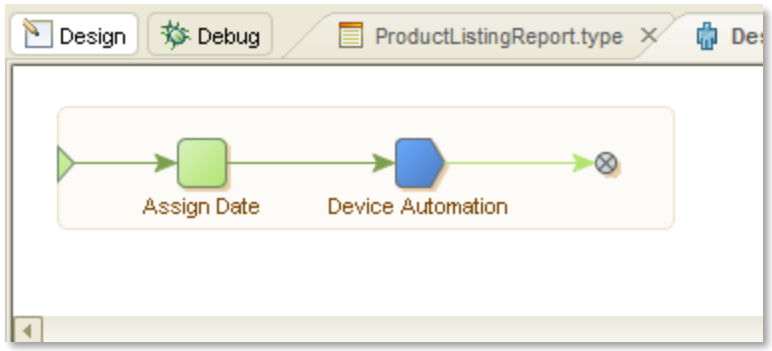
- The first Step in our Robot will be to Assign the current date and time to the Product.ListingReport.Date variable.





The Expression, “now()” returns the current system date and time.

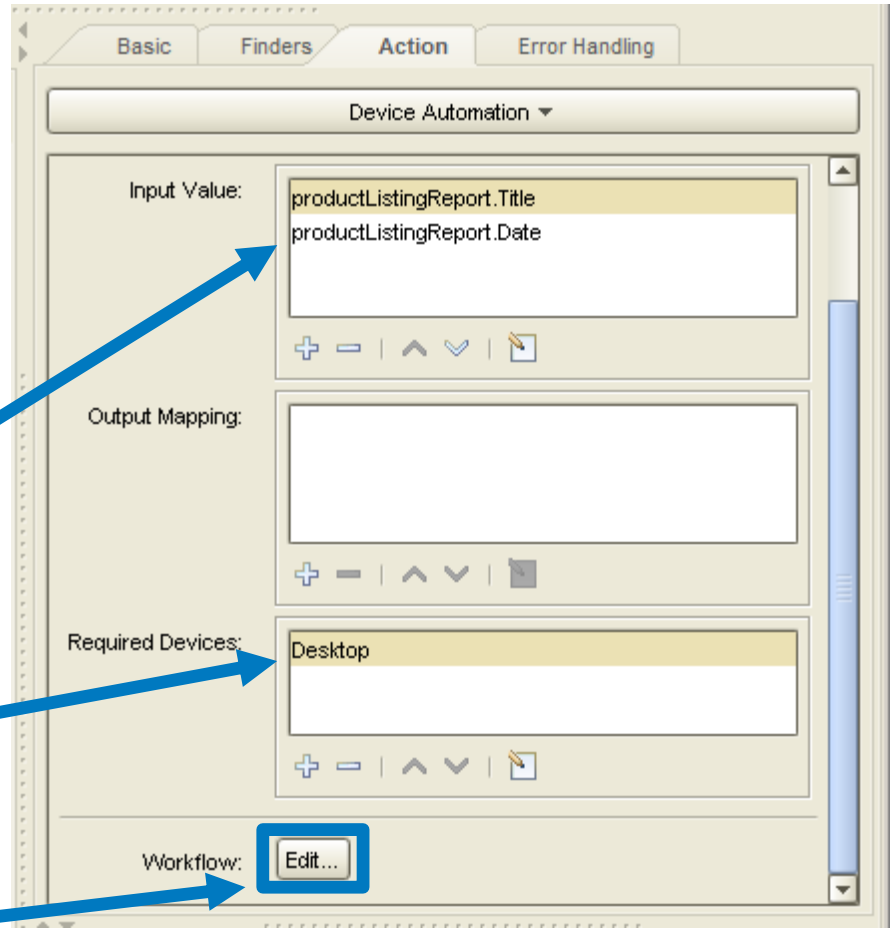
Add Device Automation Step



productListingReport.Title and productListingReport.Date will be used as input values. These values will be automatically added as the first and second line of the heading of our document.

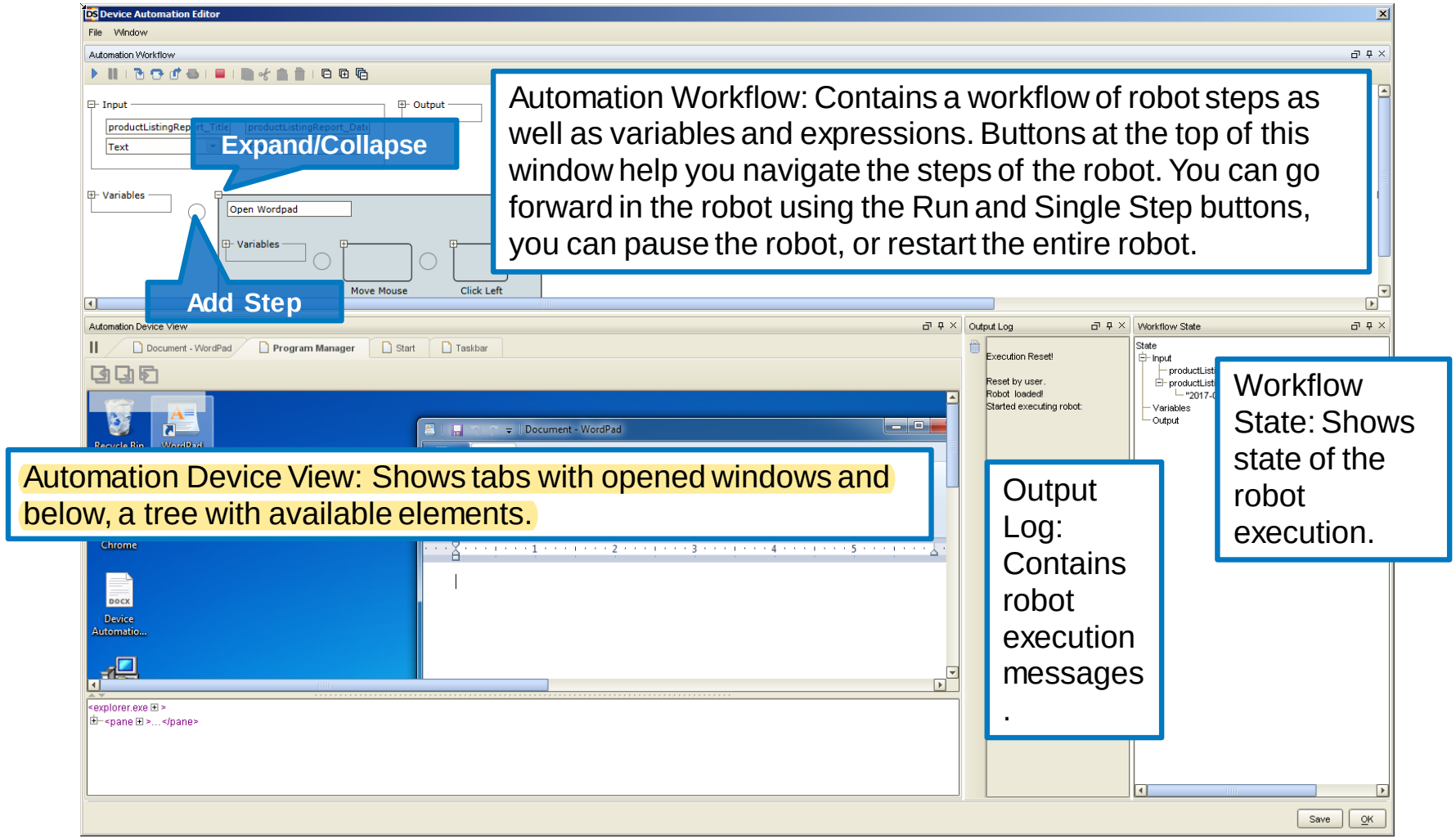
"Desktop" is our mapped device. That is the computer that will be accessed for this step.

Click [Edit] to begin adding workflow.



Device Automation Step Workflow Editor GUI

- *This is what your step will look like when you have completed*



Device Automation Editor Toolbar

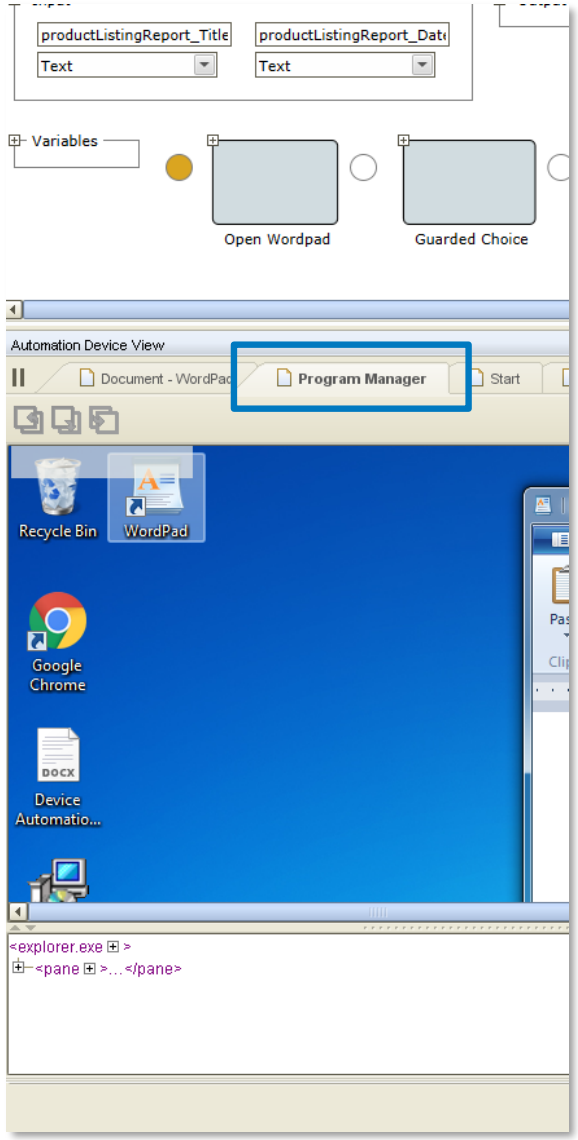
Start Execution	Starts automation workflow execution.
Pause	Pauses automation workflow execution.
Step Into	Opens a step to go through all its branches separately.
Step Over	Executes a step with all its branches.
Step Out	Completes the execution of all branches in a step and goes out of the step to the main workflow.
Go to Next Iteration	Enabled when the current program point is inside a Loop step. Press the button to execute until the same program point is reached again. The loop can be executed more than once if the program point is skipped in some iterations. If there are no more iterations, the execution stops at the program point outside the Loop step.
Reset	Resets the execution of the Device Automation robot.
Copy	Copies selected steps.
Cut	Cuts selected steps.
Paste	Pastes steps from the clipboard.
Delete	Deletes selected steps.

Device Automation Workflow Editor

- Notice that inputs have already been added for you for Title and Date. There are no outputs to create for this robot, nor are there any variables needed internally.

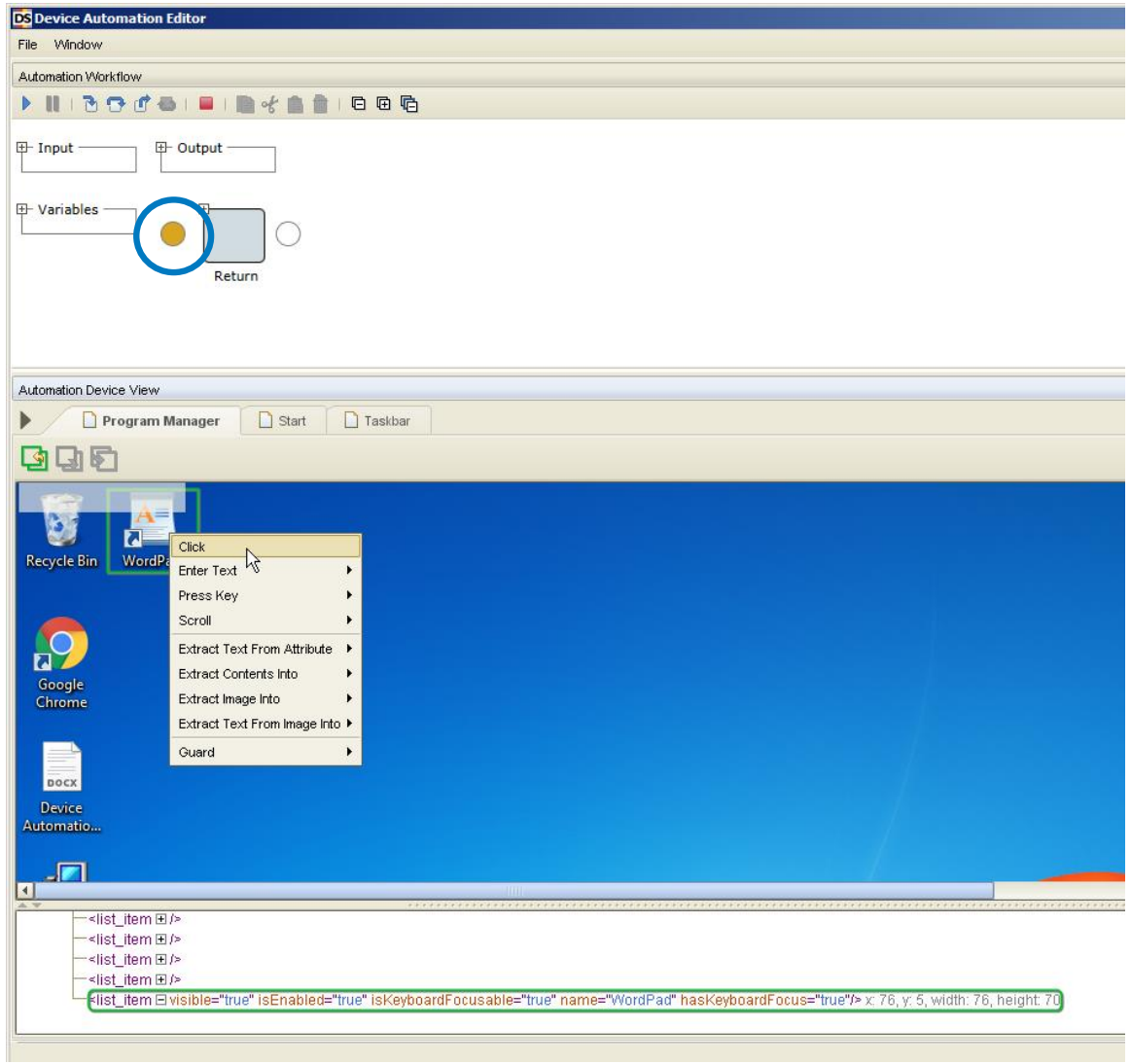
- If you click on the Program Manager tab, you'll see the desktop you're connected to.

- **NOTE: In order to interact with a particular window, you must select the tab for that window.**



First Step – To Open WordPad

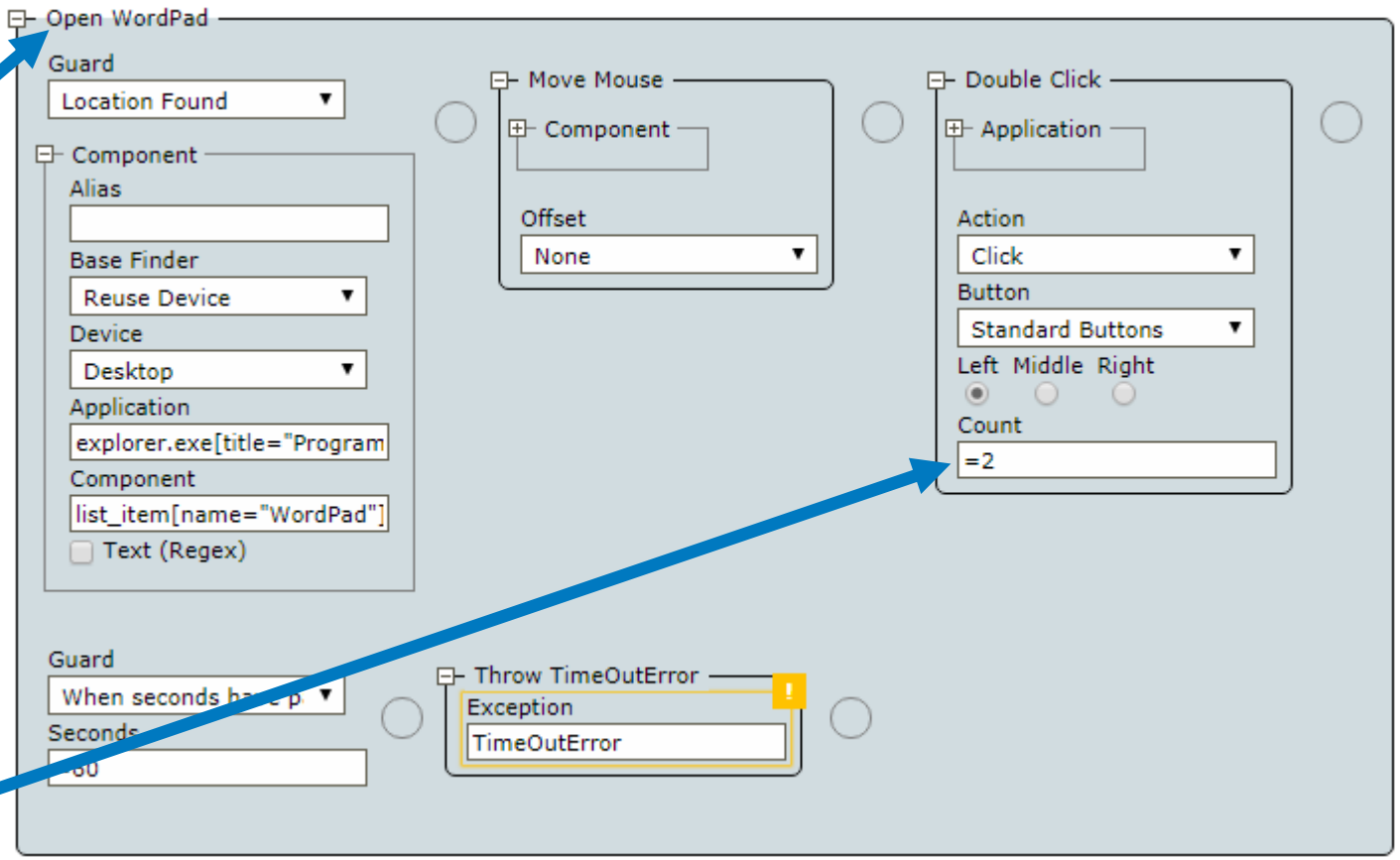
1. The button just before the “Return” step in your workflow should be selected automatically. Notice the small circle (Add button) is gold. This is where your step will be inserted.
2. Right mouse-click on the WordPad icon on the desktop.
3. Select “Click” from the context menu. This will insert a “Click Group” step before the “Return” step.



Expand the Click Group Step to Modify Properties

- Here, we've changed the title of the step from "Click Group" to "Open WordPad."

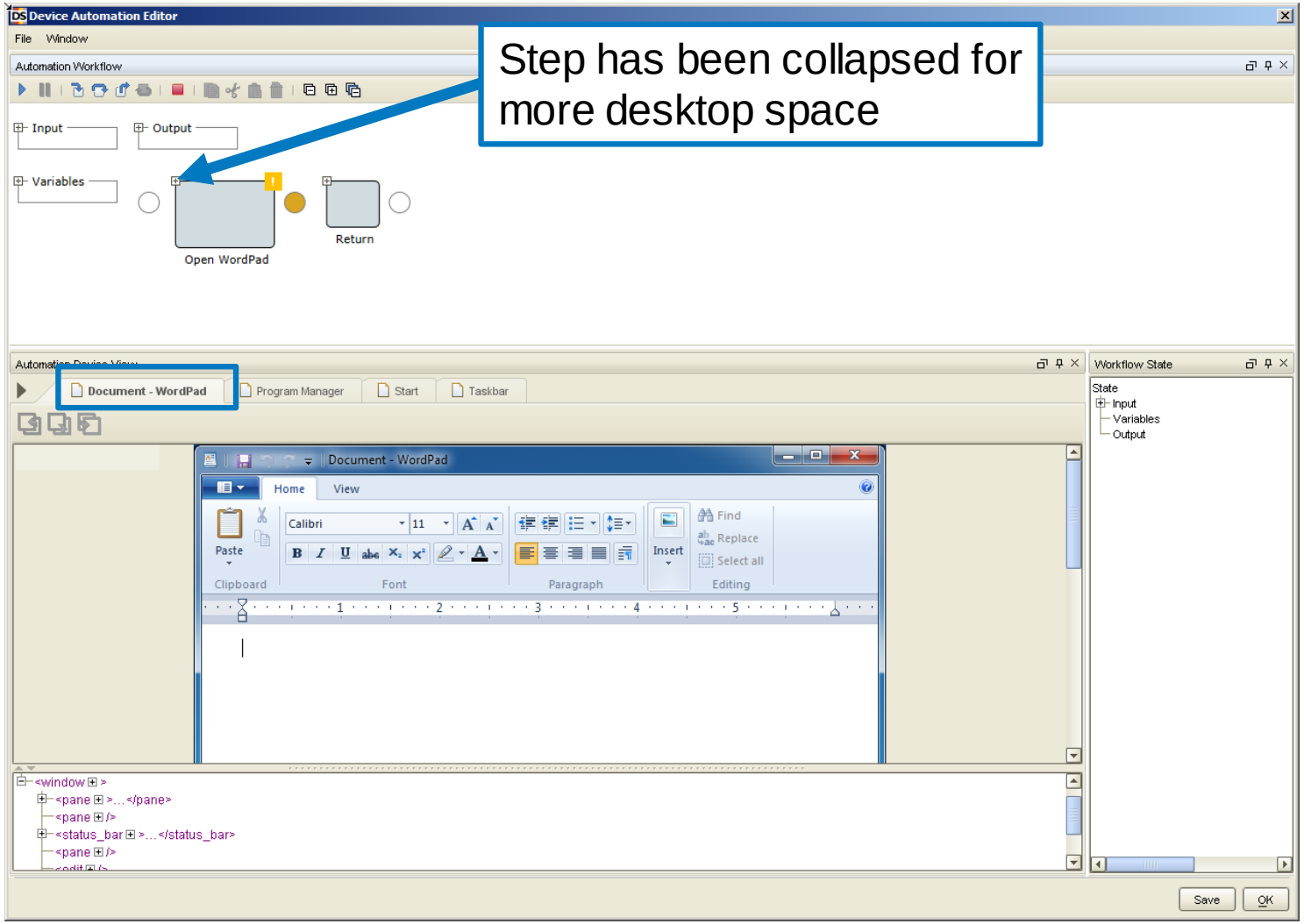
- Because we want to open WordPad and not just select it, we need to change the "Count" of the left mouse button from the default of =1 to =2.



Guard is automatically added. If the step has not executed within 60 seconds, a TimeOut error will occur.

WordPad Successfully Open

- NOTE: Yes, the Automation Device View panel may be undocked and dragged to a second monitor to make working with it more convenient.



Automation Language – Helpful Hints

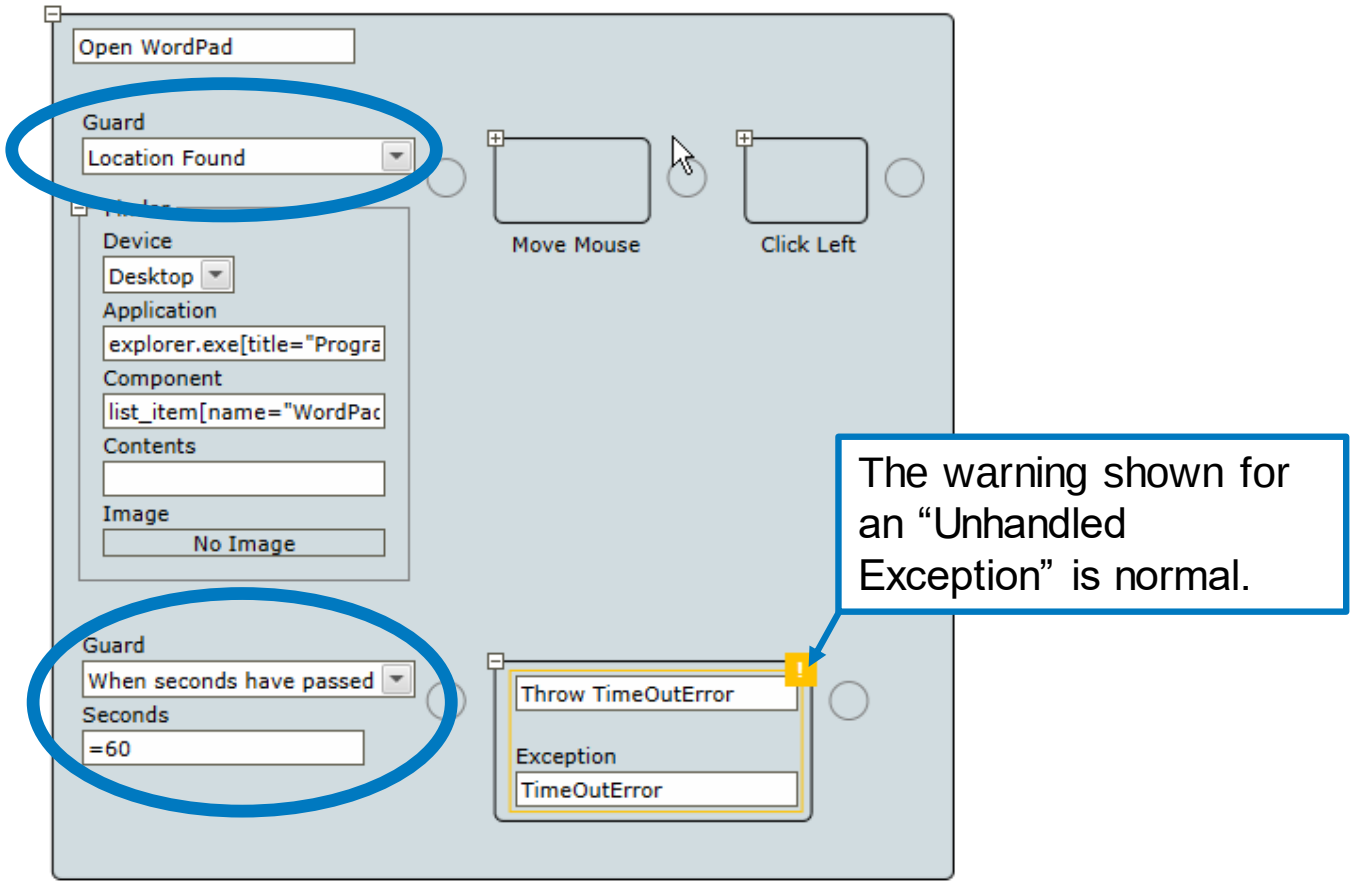
- As you continue to build your robot…
  - Think as a user: “Click and type”
    - Click on field before entering text and create your steps to reflect that action
    - NOTE: To create an “Enter Text” or a “Press Key” step, you must right mouse-click on the TAB of the item with which you want to interact
  - Remember, you can move forward only!
    - The state is on the remote device so there is no way back
    - Newly inserted steps are not executed until you single step
  - Use “Guards” to avoid timing issues
    - When a location is found
    - When a number of seconds has passed
    - More on next slide

Guards and Guarded Choice Steps

- One of the means to avoid robot execution issues utilized in Kapow Device Automation logic, is the Guard or Guarded Choice.
- When a robot clicks in the interface, it cannot foresee the consequence nor can it determine when the application is done processing the event.
- This is why it is important to use guards when you design your Device Automation robot. In Kapow you can use location and timeout guards to make sure the robot finds the required elements and works as designed.
- In Kapow 10.1 and later, a default 60-second guard is inserted in the following steps when they are added via the Application View: Click, Scroll Mouse, Enter text, Extract text and Extract Contents (from Extract value), Extract Image, Extract text from image, Press key.

Guards are Automatically Added to the Step

- Because opening WordPad can take a couple of seconds before we're ready for the next action, having a Guard makes sense. The default setting first looks for the application to open and then will allow up to 60 seconds for the application to open an then throw a TimeOut exception. The robot would then end.



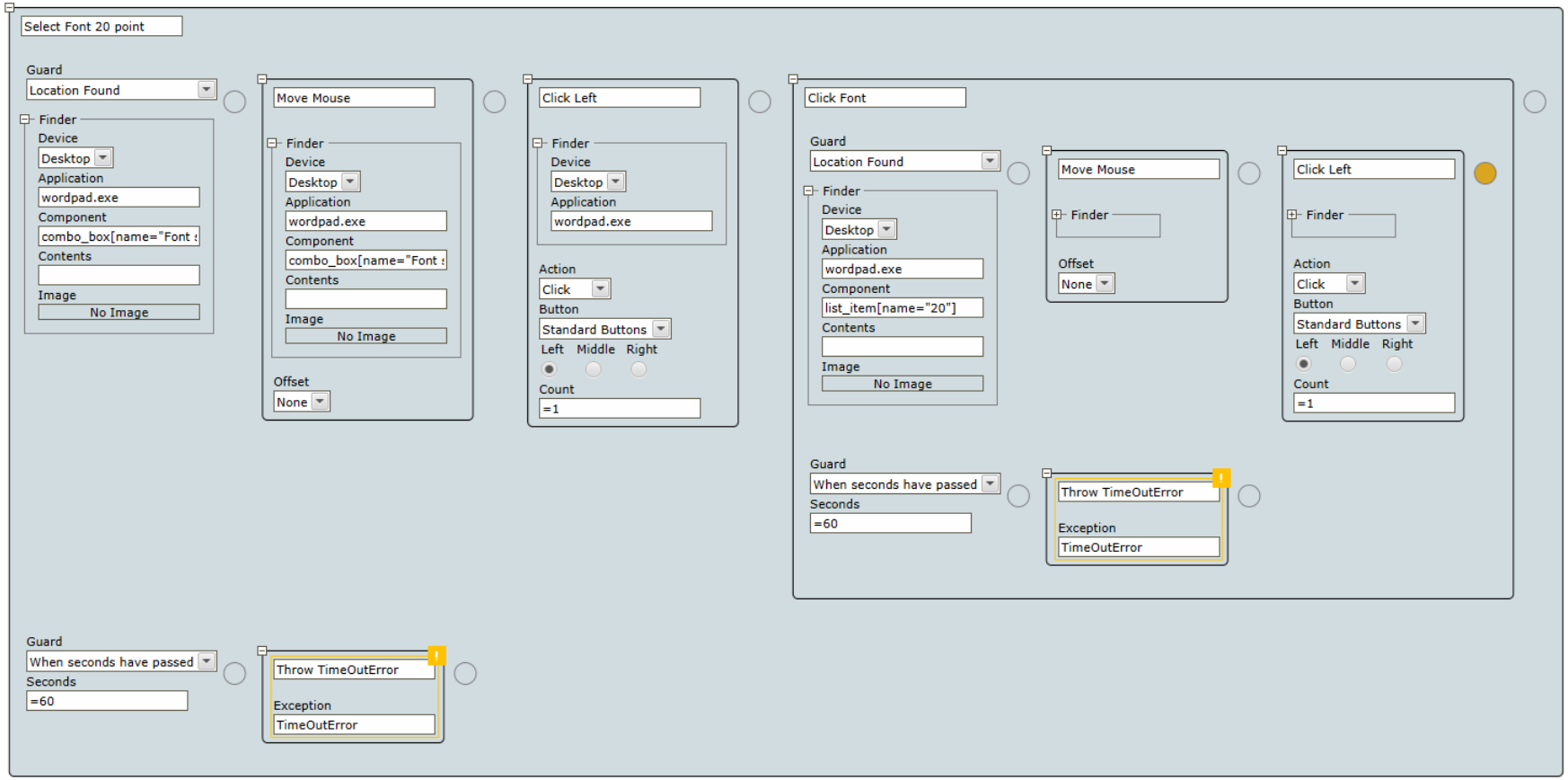
Select Font Size

The next step is to select the font size from the dropdown menu in WordPad. Simple…yes, but if you examine how you do that as a human, there are several steps:

1. You have to move the mouse to the dropdown arrow next to the font size.
2. You have to click on the arrow.
3. You have to then move your mouse to the correct size. We're going to pick 20 point.
4. Then you have to click on that size.

The Select Font Size Step

- Here's what the step looks like, fully expanded, in our editor.



Because there are several sub-steps, this is easier to understand in a live demo than in PowerPoints. So your instructor will now take you through the steps.

KOFAX

Demo & Lab

Basic Device Automation