OBJECTIVES

- General introduction to Robotic Process Automation
- Understand the different capabilities of Blue Prism
- Understand the process of unattended automation
- Know where to find additional resources
- Learn through hands-on exercises

CHAPTER 1

Introduction to Robotic Process Automation and BluePrism

ROBOTIC PROCESS AUTOMATION (RPA)

• RPA is a technology for automating business processes.

• RPA can lower costs, increase flexibility, and improve process accuracy, as well as help business and IT work together more effectively.

• The core idea of RPA is simple, rather than have people interact with applications, RPA instead uses software robots that drive application user interfaces in the same way.

• As an enterprise RPA product, Blue Prism does not create scripts but builds software robots using Blue Prism-defined business objects and processes.



Process Done Manually

Process Done with RPA



THE ROBOTIC PROCESS AUTOMATION OPPORTUNITY

- RPA represents an opportunity to transform the back and front office and improve business performance across the entire organization.
- Increased Efficiency and Productivity
- Greater Operational Ability
- Reduces Operational Risk
- Superior Control, Governance and IT Security ever increasing regulation and compliance requirements (corporate governance)
- Always seeking to reduce cost
- Enhanced Business Insight

A BLUEPRISM CASE STUDY

- Telefónica O2 is the second-largest mobile telecommunications provider in the United Kingdom.
- Facing 400,000 1,00,000 back-office transactions per month, Telefónica faced immense back-office costs, increased average response time increased significantly, and quality control reported a failure of customer calls by 50 percent. Telefónica needed to simplify and optimize business processes and reduce back-office costs by 10 percent.
- BluePrism conducted two pilot automation projects:
 - SIM swaps—the process of replacing a customer's existing SIM with a new SIM but keeping the existing number
 - Application of a pre-calculated credit to a customer's account.
- Comparing the BluePrism automation process to creating a Business Process Management Software (BPMS) that would require IT resources and scrum teams, Telefónica O2 realized that a full BPMS system would take more than three times as long as the RPA to pay for itself.
- As of April 2015, Telefónica O2 deployed over 160 "robots" that process between 400,000 and 500,000 transactions each month, yielding a three-year return on investment of between 650% and 800%.
- Customer "chase up" calls have been reduced by over 80 percent per year.

SYNAPTEIN SOLUTIONS AND BLUEPRISM PARTNERSHIP

- An agency that provides audit and assurance services to state government and educational institutions faced internal quality issues over the increased volume of auditory services provided.
- The audit team faced time constraints due to manually having to standardize documents, manually input data, and compile data for comparative analysis, leaving less time for the financial and compliance audit procedures. The audit process was plagued by business process deficiencies, inaccuracies, and inefficiencies that slowed down audit completion times.
- Synaptein Solutions with Blue Prism experts collaborated with the agency to design and develop a large-scale data management processes and business intelligence applications to enable better auditory capabilities around financial and compliance audits; Comprehensive Annual Financial Reports (CAFR), Single Audit Reports, Budgetary Compliance Reports (BCR), and activity reporting for the audit and company executives.
- The developed solution created a knowledgebase that could be used by auditors to quickly analyze and report on audit, assurance, and legislative processes. The solutions reduced one hour of human work extracting information to less than 2 minutes with higher than 95% accuracy. The team developed multiple logic forms to ensure that the build could convert multiple forms of unstructured data at maximum accuracy possible.
- The solution could process 160 files in 5 hours and 30 minutes, and a significantly high number of files processed to completion without any exceptions. This replaced 160 human hours and allowed the agency to move on to the next stages of validation and auditing more quickly and resulted in any increase in efficiency and reduced time for each individual audit. The developed solution is scalable, reliable, and reusable. The foundational logic built for each file is reusable and adaptable for multiple scenarios to quickly automate further processes.
- In the end, the agency has been able to convert several human hours into a few robotic minutes. The agency now enjoys a transformed data architecture that allows the data to be more accurately processed for analysis and can refocus its energies to transform the level of accountability for billions of funding to state government and educational institutions. This allows the agency to refocus efforts to strive for budgetary and statutory reform and reduce the waste or abuse of federal and local funding.

CHAPTER 2

Downloading and Installing BluePrism

STEPS IN DOWNLOADING AND SETTING UP BLUEPRISM

- 1. User Registration
- 2. Log into BluePrism portal
- 3. Configure BluePrism
- 4. Install BluePrism
- 5. Activate BluePrism

SECTION 2.1

User registration

STEPS IN USER REGISTRATION

- 1. Navigate to <u>https://digitalexchange.blueprism.com/</u>
- 2. Select the Login button on the top right corner
- 3. Select the Register option in the drop down
- 4. Select the "Sign Up Here" option in the Log In window
- 5. Enter the appropriate email, username, password (this is a temp and you will need to set up a new password again), and personal information in the 'Create New Account' page
- 6. Click the link in the email to active the account.
- 7. Set a new password in the login page
- 8. Complete the personal information page

SELECT THE LOGIN BUTTON ON THE TOP RIGHT CORNER



SELECT THE REGISTER OPTION IN THE DROP DOWN



SELECT THE "SIGN UP HERE" OPTION IN THE LOG IN WINDOW

blueprism

Home Community Product Robotic Operating Model Documents University

Blue Prism Portal Login

Login to Digital Exchange with your Blue Prism Portal account



What's Inside

To get access to our portal, register

today.

Our comprehensive portal provides a gateway to a host of information and resources including:

AI CUSTOMER SELF SERVICE	PRODUCT DOCUMENTATION
BLUE PRISM UNIVERSITY	PRODUCT DOWNLOADS
INTERACTIVE DISCUSSION FORUMS	ROBOTIC OPERATING MODEL DOCUMENTATION
KNOWLEDGE BASE	FREE TRIAL

Sign Up

Username or email address.*

Enter your username or email address

Password*

Enter the password that accompanies your username. Forgotten your Password?

Log in	
Cancel login a	and return to Digital Exchange
Don't have	n account? <u>Sign up here</u>

Contact <u>support@blueprism.com</u> for any issues accessing the Portal <u>Blue Prism Online Services Terms & Conditions</u>

ENTER THE APPROPRIATE EMAIL, USERNAME, PASSWORD, AND PERSONAL INFORMATION IN THE 'CREATE NEW ACCOUNT' PAGE

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							BLUEPR	ISM.COM	DIGITAL EXCHANGE	🛔 LOG IN
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ate new account										
		Cr	eate	new acc	ount	:				
		Alr	eady regist	tered for Blue Prism	? Please	log in				
		Emai	l address *							
		A valid addres wish to	email address s is not made j receive certai	a. All emails from the syste public and will only be use in news or notifications by	m will be se d if you wisl email.	nt to this address. T n to receive a new p	'he email bassword or			
		Usen	name *							
		Severa	l special chara core (_).	cters are allowed, includin	g period (.), I	nyphen (-), apostrop	phe ('), and the			
		Pass	word "	\sim	Confirm	n password *				
		Passy	word stren	gth:	Provide a pa both fields.	ssword for the new	v account in			

SET A NEW PASSWORD IN THE LOGIN PAGE.

C portal.blueprism.com/user/reset/190992			☆
blue prism			
Set password			
This is a one-time login for			
Click on this button to log in to the site an	d change your password.		
This login can be used only once.			
Offices		Contact	
London, UK	Warrington, UK	✓ info@blueprism.com	
338 Euston Rd, London, NW1 3BT	2 Cinnamon Park, Crab Lane, Warrington, WA2 0XP, UK	Phone	

SET A NEW PASSWORD IN THE LOGIN PAGE

mail address*	1	
valid email address	. All emails from the system will be sent to this address. The email address is not made p	public and will only be used if you wish to receive a new password or wish to receive certain news or notifications
y email.		
'assword *		Confirm password *
assword *	JS	Confirm password *
assword *	I S	Confirm password *
Password *	I S	Confirm password * To change the current user password, enter the new password in both fields.
Password *	gth: STATUS	Confirm password * To change the current user password, enter the new password in both fields. CONSTRAINT
Password *	gth: STATUS Fail - Password length must be at least 6 characters.	Confirm password * To change the current user password, enter the new password in both fields. CONSTRAINT Password character length of at least 6
Password *	gth: STATUS Fail - Password length must be at least 6 characters. Fail - Password must contain at least 1 special character.	Confirm password * To change the current user password, enter the new password in both fields. CONSTRAINT Password character length of at least 6 Password must contain 1 special characters

COMPLETE THE PERSONAL INFORMATION PAGE

1	I	
First name*		
Last name *		
Job title *		

SECTION 2.2

Configuring BluePrism

STEPS IN CONFIGURING BLUEPRISM

- 1. Log into BluePrism using the link
- 2. Navigate to the BluePrismDX front page and select the BluePrism Free On-Prem Trial
- 3. Select the "Get Free Trial" box in the new page
- 4. Confirm your personal details and click "Submit"
- 5. Use the link in the email to download
- 6. Follow the prompts on the application to install BluePrism

NAVIGATE TO THE BLUEPRISMDX FRONT PAGE AND SELECT THE BLUEPRISM FREE ON-PREM TRIAL



SELECT THE "GET FREE TRIAL" BOX IN THE NEW PAGE



CONFIRM YOUR PERSONAL DETAILS AND CLICK "SUBMIT"

Address Line 1 *			
Address Line 2			
City *			
State			
Descince	3	*	
Province			
Postal Code			
Country			
		Ŧ	

USE THE LINK IN THE EMAIL TO DOWNLOAD



FOLLOW THE PROMPTS ON THE APPLICATION TO INSTALL BLUEPRISM



SECTION 2.3

Navigating BluePrism

STEPS IN NAVIGATING THE BLUEPRISM APPLICATION

- 1. Set a local password. This password is just to access the application and not the BluePrism portal.
- 2. Sign into BluePrism using the new credentials
- 3. Activate the BluePrism license from the email attachment
- 4. Generate and save the license code
- 5. Navigate to the portal to get the license key

SET A LOCAL PASSWORD

Sign in with Blue Prism credentials
We've set the admin username for you
admin
Parsward room incompanies
At least 8 characters, at least 1 upper case and 1 lower case character and at least 1 number.
Create a password
Repeat your password

SIGN INTO BLUEPRISM USING THE NEW CREDENTIALS

Change language Sign in to Blue Prism Connection LocaIDB Connection Sign in with Blue Prism credentials User name Password Sign in using Blue Prism credentials				
Change language Sign in to Blue Prism Connection LocalDB Connection Sign in with Blue Prism credentials User name Password Sign in using Blue Prism credentials				
Sign in with Blue Prism credentials User name Bassword Sign in using Blue Prism credentials Sign in using Blue Prism credentials	Change Janguage			
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ACTIVATE THE BLUEPRISM LICENSE FROM THE EMAIL ATTACHMENT

Jpl	oad your license here
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*	You will either have downloaded your license code from the Blue Prism Digital Exchange or have been emailed it. Look in your downloads folder or your inbox for "Blue Prism License"
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GENERATE AND SAVE THE LICENSE CODE

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Generate new activation code

I've got an activation code

Next Step

Copy to clipboard

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NAVIGATE TO THE PORTAL TO GET THE LICENSE KEY



SUBMIT THE LICENSE CODE TO GET THE LICENSE KEY

request may have failed. Check that you have copied the activation key correctly before resubmitting. I accept the EULA* o retrieve your licence activation key please review and accept the BLUE PRISM EULA TERMS i.cence activation code*	f you encounter an error when submitting the form pleas	ase make a note of the error message as this has important information about the reasons	s the activation
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Licence activation code*	o retrieve your licence activation key please review and accept the BLUE PRISM	I EULA TERMS	
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COPY PASTE THE LICENSE KEY INTO THE BLUEPRISM LICENSE MANAGER

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CLICK THE "I'VE GOT MY VALIDATION CODE" OPTION



PASTE THE LICENSE KEY FROM THE PORTAL


YOU'RE ALL GOOD TO GO!

Smashing

You're all set up and ready to go.

Don't forget to visit the Blue Prism Portal to find a whole load of training materials – you can even get yourself certified.

Please do get involved too and feedback your ideas, suggestions or just talk all things Blue Prism on our <u>community site</u>.



×

CHAPTER 3

Creating an Object in BluePrism

STEPS IN CREATING A BLUEPRISM AUTOMATION

- 1. Save the provided zip file on the desktop
- 2. Create a new Business Object
- 3. Using the Application Modeler

SECTION 3.1

Creating a Business Object

CREATING A BUSINESS OBJECT

- 1. Navigate to the BluePrism Studio
- 2. Create a new Business Object Group
- 3. Name the new Business Object Group
- 4. Create a new Business Object
- 5. Enter a name for the Business Object
- 6. Enter a description for the Business Object

NAVIGATE TO THE BLUEPRISM STUDIO



CREATE A NEW BUSINESS OBJECT GROUP



NAME THE NEWLY CREATED BUSINESS OBJECT GROUP



CREATE A NEW BUSINESS OBJECT



ENTER A NAME FOR THE BUSINESS OBJECT

New Business Object			?	×
Start work on a new business object				
Enter a name for the business object				_
GDP by Country				
	< Back	Next >	Cano	el

ENTER A DESCRIPTION OF THE BUSINESS OBJECT

Enter a description of the	business object				
The purpose of this bu 1. Model the internet e 2. Create actions so th 3. Transition to process	isiness object is to: xplorer webpage so that ti at the bot can interact with s studio where the bot use	he bot can interact with ti the web page to get the s the BP business objects	he webpage. appropriate information and business process to	ı. complete the task.	

CLICK FINISH

tart work on a now burgin	uara abiart				_	
tart work on a new busin	less object					
nter a description of the business ob	ject					
he purpose of this business obj 1. Model the internet explorer we 2. Create actions so that the bot 8. Transition to process studio wh	ect is to: bpage so that the bot can interac can interact with the web page to nere the bot uses the BP business	t with the webpage. get the appropriate informa objects and business proces	ation. ss to complete the ta	sk.		

SECTION 3.2

Using the Application Modeler

USING THE OBJECT STUDIO APPLICATION MODELER

- 1. Open the "GDP by Country" Business Object
- 2. Navigate to the Application Modeler
- 3. Select the Application Modeler Icon
- 4. Configure the Application Modeler
- 5. Identify the elements of IE that will be used by Object Studio

OPEN THE "GDP BY COUNTRY" BUSINESS OBJECT

Blue Prise	m - Robotic Process Automation Software - v6.9.0		? – Ø ×
File	Home Studio Contro	Analytics Releases System My Profile	
	Studio	View detail about Processes or Business Objects	E
	-	× M	
	T Processes	GDP by Country	
N	Default (Default)	The purpose of this business object is to:	^
	- Objects	1. Wodel the Internet explorer webpage so that the bot can interact with the webpage.	Ŷ
_	SynapOne Bootcamp	Cashi matory of this object process.	
, Y	GDP by Country	Date and Time Type of Edit By User Edit Summary	Available?
		3/1/2021 14/103 PM Creation admin business object treated	(3)
a			
1			
-			

NAVIGATE TO THE APPLICATION MODELER



SELECT THE APPLICATION MODELER ICON

	🚯 Object Stud	lio - Edit - GDP k	by Country											
	<u>F</u> ile <u>E</u> dit	<u>V</u> iew <u>T</u> ools	<u>D</u> ebug <u>I</u>	<u>H</u> elp										
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	▶ • ^ç ≣	ÇI °I 🕻 🛛	(1) Errors	📑 Launc	n 🛞 Appli	cation Mo	deller	🕨 60 👔	ā, 🛅 🗄	🗄 🛨 Fi	nd Text	:		
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	Block													Ţ
	Read													+
5	Write													+
	∑ Navigate													t
	Code													_
	🗂 Wait								_				_	+
	Process													+
	Page													+

SECTION 3.2.1

Configuring the Application Modeler

CONFIGURING THE APPLICATION MODELER

- 1. Define the application name
- 2. Indicate "Internet Explorer" as the Application being used
- 3. Indicate that the bot will be opening a new instance of IE for every instance
- 4. Enter the path to the browser (Default)
- 5. Select to Only interact with elements on the active browser tab (Default)
- 6. Do not enable java integration techniques (Default)
- 7. Exclude HTC components (Default)
- 8. Select the Application Manager mode (Default)
- 9. Click "Finish" and start the Application Modeller

DEFINE THE APPLICATION NAME

pplication Modelle	r		
Define a new applica	tion model		
	Internet Evaluated		
Application name			
O Share the applicatio	model of another object		
Parent object		\sim	
O Don't use an applica	ion model with this object		
Oboint use an applica	ion model with this object		

INDICATE "INTERNET EXPLORER" AS THE APPLICATION BEING USED

Application Modeller			
Indicate what type of application you are using			
O Windows Application			
O Java-based Application			
O Browser-based Application (Chrome Firefox or Edge ((hromium)		
Browser-based Application (Internet Explorer)			
O Mainframe Application			

INDICATE THAT THE BOT WILL BE OPENING A NEW INSTANCE OF IE FOR EVERY INSTANCE

Applicatio	n Modeller											
Indicate wh	at type of application	you are usir	g									
O A brow	vser which is already ru	innina				_						
O A brov	ser that is launched fr	om an exec	utable f	ile								
										_		
								_			-	

ENTER THE PATH TO THE BROWSER (DEFAULT)

Application Modeller					
Please enter the path to your browser					
C:\Program Files\Internet Explorer\iexplore.exe			 	Browse	_
L					

ENTER THE URL OF THE START PAGE

Application Modeller					
Please enter the URL of your start page, and any other c	command-line para	ameters.			
https://www.worldometers.info/gdp/					

SELECT TO ONLY INTERACT WITH ELEMENTS ON THE ACTIVE BROWSER TAB (DEFAULT)



DO NOT ENABLE JAVA INTEGRATION TECHNIQUES (DEFAULT)



EXCLUDE HTC COMPONENTS (DEFAULT)



SELECT THE APPLICATION MANAGER MODE (DEFAULT)

Application Modeller Wizard							?	
Analisation Medallar								
Application Modeller								
Select the Application Manager mode								
Embedded (default)								`

CLICK "FINISH" AND START THE APPLICATION MODELLER



SECTION 3.2.2

Identifying the Elements using the Application Modeler

IDENTIFY THE ELEMENTS OF IE THAT WILL BE USED BY THE OBJECT STUDIO

- 1. Launch IE through the Application Modeler
- 2. Change the name of the Element based on what is being identified
- 3. Click on the identify option in the application modeler
- 4. Use the Ctrl + left mouse click to select the element
- 5. Use the Ctrl + left click to select the GDP by country link
- 6. Untick all the blank attributes from the element and click apply
- 7. Use the Alt key to navigate through different Spy Modes
- 8. Repeat the steps to add all the elements necessary to the process

LAUNCH IE THROUGH THE APPLICATION MODELER

	Application	Model held	nas to this O	hiert			
Filter the tree				bject			
- Internet Explorer	Element D	etails					
Element1	Name	Lieme	nti				
	Descriptio	י					
	Element T	pe	~	Data Type			1
	Attribute	Notes					
	A Name		Match?	Match Type	Value		
	:						
dd Element Child	Clea	r		н	ighlight	Laun	ch

CHANGE THE NAME OF THE ELEMENT BASED ON WHAT IS BEING IDENTIFIED

Application Modeller		? – 🗆 🗙	Application Modeller		? – 🗆 ×		
Define the elements of an a	pplication that will be used by Object Stud	io	Define the elements of an appli	ication that will be used by Object Stud	dio		
	Application Model belongs to this Object		A	pplication Model belongs to this Object			
T Filter the tree	Element Details		Y X	Kernent Details			
L. <u>Element1</u>	Name Element1 Description Element Type Data Type Attributes Notes Attributes Match? Match Type	Value	GDP by Country Link	Name GDP by Country Link Description	Value		
	4						
Add Element Child	Clear	Highlight Launch Cancel Apply	Add Element Child	Clear	Highlight Identify • Cancel Apply		

CLICK ON THE IDENTIFY OPTION IN THE APPLICATION MODELER

Define the elements of an	application th	at will be u	sed by C	bject Studio		
	Application N	Aodel belong	s to this C	bject		
7	🗙 Element Deta	ils				
WorldOMeters Web Page	Name	GDP by (Country Link	:		
GDP by Country Link	Description					
	Element Type			Data Type		
	Attributes	Notes				
	A Name	Notes	Match?	Match Type	Value	
	•					

ENSURE THAT THE POP UP INDICATES THAT YOU ARE IN "SPY ELEMENT" MODE



USE THE CTRL + LEFT MOUSE CLICK TO SELECT THE ELEMENT


USE THE CTRL + LEFT CLICK TO SELECT THE GDP BY COUNTRY LINK



UNTICK ALL THE BLANK ATTRIBUTES FROM THE ELEMENT AND CLICK APPLY

	. aject	er belongs to this c	Application Mod	
			× Element Details	Filter the tree 🗙
	4	GDP By Country Link	Name	- WorldOMeters Web Page
			Description	OUP by Country Link
Text 🗸	Data Type	HTML Element ~	Element Type	
	_	s	Attributes Not	
Value	Match Type	Match?	A Name	
10 ^	= (Equal)		Ancestor Count	
False	= (Equal)		Checked	
	= (Equal)		Class Name	
True	= (Equal)	\checkmark	Enabled	
17	= (Equal)) Height	
	= (Equal)		D	
	= (Equal)		Input Identifier	
	= (Equal)		Input Type	
https://www.worldom	= (Equal)		Link	
1	= (Equal)		Match Index	
True	= (Equal)		Match Reverse	
https://www.worldom	= (Equal)		Parent URL	
/HTML/BODY(1)/DIV(= (Equal)		Path	
RECT:923,781,798,1032	= (Equal)		Screen Bounds	
	= (Equal) = (Equal) = (Equal) = (Equal)		Parent URL Path Screen Bounds	

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▼ Filter the tree	2		Flamment Dataila	rbelongs		-oject		
WorldOMeters Web Page			clement Details	CDD By Ca	unter Link			
GDP By Country Link			Name	GDP by Co		•		_
			Description					_
		E	Element Type	HTML Eler	nent ~	Data Type	Text	`
			Attributes Note	s			1	
			🔺 Name		Match?	Match Type	Value	
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			Checked			= (Equal)	False	
			Class Name			= (Equal) 🗸	Ŀ	-
			Enabled			= (Equal)	True	
			Height			= (Equal)	17	
			ID			= (Equal)		
			Input Identifier			= (Equal)		
			Input Type			= (Equal)		
			Link			= (Equal)	https://www.worldom	
			Match Index			= (Equal)	-	-
			Match Reverse			= (Equal)	True	
			Parent UKL			= (Equal)	nttps://www.worldom	
			Fath			= (Equal)	7 T I WIL/DODY(1)/DIV(
			screen bounds			- (cquai)	NEC 1:925,701,798,105	۹.

HIGHLIGHT THE GDP BY COUNTRY LINK

Application Modeller			? – 🗆 X	worldomet	Coronavirus Population		
Define the elements of an ap	oplication that will be u Application Model belond	used by Object S	itudio	C	chrome Switch to Google Chrom a better browsing exper	ne for Yes, get	Chrome now
Filter the tree	Element Details						
WorldOMeters Web Page GDP By Country Link	Name GDP By G	Country Link			₩ / GDP		: purple
	Description Element Type HTML El Attributes Notes	lement 🗸 Data Ty	rpe Text ~	HOMEOWNERS TO SWITCH TO A 15-YEAR TKED NO RESPERTING NG LOD KC DULDLATE KEN PRIVENT >	Global GDP th	nis year	
-	A Name	Match? Match Ty	/pe Value	Manharan	\$ 16 235 134	421 716	
	Ancestor Count	= (Equa	l) 10 ^	wortgage	ψ 10,200,104,	721,710	
-	Checked	Equa	I) False	Rates Fall	(combined <u>GDP of all countries</u> , from Ja	an. 1 2019 up to now)	
а а	Class Name	= (Equa	I) 🗸 💷	Again			purple
-	Enabled	= (Equa	I) True	-	2019 FORECAS	ST:	parpie
-	Height	= (Equa	I) 17				
-	ID	= (Equa	1)	QL	2010 Clobal CDP	Growth rate	
-	Input Identifier	= (Equa	0			Glowinnale	
-	Input Type	= (Equa		Recalculate	\$87,265,226,000,000	2.98% 🛉	I'm Carabat from Burpla hara ta
	LINK Match Index	✓ = (Equa	n 1	Your House	[see all years]	[view chart]	help make 2021 more serene.
-	Match Reverse	= (Equa	D True	Payment In A			
-	Parent URL	Equa	I) https://www.worldom	Few Steps			
-	Path		I) /HTML/BODY(1)/DIV(Top 20 Countries	GDP by Region	Show me how \Im Surprise me $$
-	Screen Bounds	= (Equa	I) RECT:923,781,798,1032		What is GDP?	GDP by Country	Type a message
Add Element Child	Clear	ок	Highlight Identify Cancel Apply		<u>GDP by Year</u> <u>Global Growth Rate</u>	<u>GDP per Capita</u> <u>Sources</u>	
				1			

ADD A NEW ELEMENT TO THE APPLICATION MODELER

	,	Application Mode	el belongs to th	is Object		
Filter the tree	×	Element Details				
WorldOMeters Web Page GDP By Country Link		Name	GDP By Country	Link		
obr by country link		Description				
		Element Type	HTML Element	✓ Data Type	Text	
		Attributes Note	25			
		A Name	Mato	h? Match Type	Value	
		Ancestor Count] = (Equal)	10	
		Checked		= (Equal)	False	
		Class Name] = (Equal)		
		Enabled] = (Equal)	True	
		Height] = (Equal)	17	
		ID] = (Equal)		
		Input Identifier] = (Equal)		
		Input Type] = (Equal)		
		Link	~] = (Equal)	https://www	w.worldom.
		Match Index] = (Equal)	1	
		Match Reverse] = (Equal)	True	
		Parent URL] = (Equal)	https://www	w.worldom.
		Path		= (Equal)	/HTML/BO	DY(1)/DIV(
		Screen Bounds		= (Equal)	RECT:923,7	81,798,1032

NAVIGATE TO THE "GDP BY COUNTRY" URL



USE THE WIN32 MODE TO IDENTIFY AND HIGHLIGHT THE GDP BY COUNTRY PAGE



USE THE ACCESSIBILITY MODE TO IDENTIFY AND HIGHLIGHT THE SEARCH BAR

(i) Using the Identification Tool - (Accessibility mode)										- 0 ×
									→ 🗎 Ċ Search	P- 合 ☆ 戀 🙂
Use Ctrl and left-click to select the highlighted item, or Ctrl and right-click to cancel.										
Press the Alt key to switch spy modes										
	WO	rldomete	Coronavirus	Population						
		Tur: into	n that thing y that website	ou love you bui	lt.		uild Your We	⊳× bsite		
	<u>W</u> /	GDP / GDP by Cou	ntry							
	G	DP by C	ountry							
	Latest World	official GDP figures s GDP is \$80,934,77	published by the World Ba '1,028,340 (nominal, 2017	ank. Population 1 ').	igures based o	on United Nations	data.			
	See al	so: GDP per Capita								
						_				
						Search:				
	# ↓≞	Country 🔰	GDP (nominal, 2017) ↓↑	GDP (abbrev.) ↓↑	GDP growth ↓ ↑	Population (2017) It	GDP per capita ↓ ↑	Share of World GDP 11		
	1	United States	\$19,485,394,000,000	\$19.485 trillion	2.27%	325,084,756	\$59,939	24.08%		
	2	<u>China</u>	\$12,237,700,479,375	\$12.238 trillion	6.90%	1,421,021,791	\$8,612	15.12%		
	3	<u>Japan</u>	\$4,872,415,104,315	\$4.872 trillion	1.71%	127,502,725	\$38,214	6.02%		
	4	Germany	\$3,693,204,332,230	\$3.693 trillion	2.22%	82,658,409	\$44,680	4.56%		
	5	India	\$2,650,725,335,364	\$2.651 trillion	6.68%	1,338,676,785	\$1,980	3.28%		

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USE THE IE HTML MODE TO IDENTIFY AND HIGHLIGHT THE COUNTRY NAME

E () tttps://www.worldometers.info/gdp/gdp-by-country	/							
🕕 GDP by Country - Worldom 🗙 📑								
	WO	rldomete	Coronavirus	Population				
		Turr into	n that thing y that website	ou love you bui	lt.	B	uild Your We	⊳× ebsite OSt
	<u>w</u> / <u>e</u>	GDP / GDP by Coun	try					
	GI Latest o World's See als	DP by C(official GDP figures p GDP is \$80,934,77 o: <u>GDP per Capita</u>	DUNTRY published by the World Ba 1,028,340 (nominal, 2017	ink. Population fi).	gures based d	on United Nations	data.	Share
	# ↓1	Country 🎵	GDP (nominal, 2017) 🏼 🕕	GDP (abbrev.) ↓↑	GDP growth ∥†	Population (2017) ↓↑	GDP per capita ↓↑	of World GDP ↓↑
	1	United States	\$19,485,394,000,000	\$19.485 trillion	2.27%	325,084,756	\$59,939	24.08%
	2	<u>China</u>	\$12,237,700,479,375	\$12.238 trillion	6.90%	1,421,021,791	\$8,612	15.12%
	3	<u>Japan</u>	\$4,872,415,104,315	\$4.872 trillion	1.71%	127,502,725	\$38,214	6.02%
	4	Germany	\$3,693,204,332,230	\$3.693 trillion	2.22%	82,658,409	\$44,680	4.56%
	5	India	\$2,650,725,335,364	\$2.651 trillion	6.68%	1,338,676,785	\$1,980	3.28%
	~		** *** *** ***	AA 444	4 700/		AAA FAA	

USE THE IE HTML MODE TO IDENTIFY AND HIGHLIGHT THE GDP TABLE

(()

				۰.			1.		1.			
D												
	1996	1998	2000	2002	2004	2006	2008	2010	2012	2014	2016	

Gross Domestic Product (GDP) of the United States

Year	GDP Nominal (Current USD)	GDP Real (Inflation adj.)	GDP change	GDP per capita	Pop. change	Population
2017	\$19,485,394,000,000	\$17,348,625,758,200	2.27%	\$53,366	0.64 %	325,084,75
2016	\$18,707,189,000,000	\$16,972,347,070,400	1.49%	\$52,543	0.67 %	323,015,99
2015	\$18,219,297,000,000	\$16,710,458,234,000	2.86%	\$52,077	0.69 %	320,878,31
2014	\$17,521,747,000,000	\$16,242,525,613,600	2.57%	\$50,969	0.72 %	318,673,41
2013	\$16,784,851,000,000	\$15,853,794,839,100	1.68%	\$50,107	0.75 %	316,400,53
2012	\$16,197,007,000,000	\$15,567,037,390,000	2.22%	\$49,570	0.79 %	314,043,88
2011	\$15,542,582,000,000	\$15,224,554,065,500	1.60%	\$48,862	0.83 %	311,584,04
2010	\$14,992,052,000,000	\$14,992,052,000,000	2.53%	\$48,516	0.88 %	309,011,47
2009	\$14,418,739,000,000	\$14,594,842,181,900	-2.78%	\$47,648	0.93 %	306,307,56
2008	\$14,718,582,000,000	\$15,011,490,541,400	-0.29%	\$49,464	0.96 %	303,486,01
2007	\$14,477,635,000,000	\$15,055,395,304,800	1.78%	\$50,083	0.96 %	300,608,42
2006	\$13,855,888,000,000	\$14,792,303,791,800	2.67%	\$49,679	0.94 %	297,758,96
2005	\$13,093,726,000,000	\$14,408,093,840,400	3.35%	\$48,842	0.90 %	294,993,51
2004	\$12,274,928,000,000	\$13,941,713,404,100	3.79%	\$47,688	0.88 %	292,354,65
2003	\$11,510,670,000,000	\$13,433,168,199,500	2.81%	\$46,351	0.88 %	289,815,56
2002	\$10,977,514,000,000	\$13,066,422,980,900	1.79%	\$45,483	0.94 %	287,279,31
2001	\$10,621,824,000,000	\$12,837,135,352,100	0.98%	\$45,105	1.03 %	284,607,99
2000	\$10,284,779,000,000	\$12,713,058,213,400	4.09%	\$45,128	1.14 %	281,710,90
1999	\$9,660,624,000,000	\$12,213,269,668,400	4.69%	\$43,846	1.23 %	278,548,15
1998	\$9,089,168,000,000	\$11,666,663,209,400	4.45%	\$42,397	1.27 %	275,175,30
1997	\$8,608,515,000,000	\$11,169,624,848,700	4.49%	\$41,108	1.26 %	271,713,63
1996	\$8,100,201,000,000	\$10,689,963,360,600	3.80%	\$39,838	1.20 %	268,335,00

SECTION 3.3

The Launch Action in Business Object

THE LAUNCH ACTION IN BUSINESS OBJECTS

- 1. Navigate to the main Business Objects page
- 2. Rename the "Action 1" page to "Launch WorldOMeters page"
- 3. Create and Configure the "Navigate" tool
- 4. Create and Configure the "Wait" tool
- 5. Create and Configure the "Exception" tool

NAVIGATE TO THE MAIN BUSINESS OBJECTS PAGE



RENAME THE "ACTION 1" PAGE TO "LAUNCH WORLDOMETERS PAGE"



ADD A NAVIGATION TOOL TO THE PAGE



SECTION 3.3.1

Create and Configure the "Navigate" tool

CREATE AND CONFIGURE THE "NAVIGATE" TOOL

- 1. Double click the "Navigate" Tool to open the "Navigate Properties"
- 2. Rename the Navigate Properties tool bar to "Launch Web Page"
- 3. Drag the "WorldOMeter web page" from the Applications Explorer to the Actions Element window
- 4. Select the "Actions" drop down menu and select the "Launch" action

RENAME THE NAVIGATE PROPERTIES TOOL BAR TO "LAUNCH WEB PAGE"

Name:	Launch Web Pa	je									
Description:							 > 	-			
Application Ex	plorer		Actions								
Filter the t	ree	×	Element			Params	Action		Input	s Set	
GDP GDP GDP GDP	By Country Link by Country Web Pa by Country Search by Country - Count Table	ge Bar ry Name on Tab	WohoN	Neters Web F	Page				✓ N/A		
			Pause A Mov	fter Each St	ep (timespan/ Move Dow	n (j			Add	Rer	move

DRAG THE "WORLDOMETER WEB PAGE" FROM THE APPLICATIONS EXPLORER TO THE ACTIONS ELEMENT WINDOW



SELECT THE "ACTIONS" DROP DOWN MENU AND SELECT THE "LAUNCH" ACTION

Name: Navigate1				
Description:			<u>~</u>	
Application Explorer	Actions			
T Filter the tree	X Element	Param Action		In uts Set
WorldOMeters Web Page GDP by Country Link GDP by Country Web Page GDP by Country Search Bar GDP by Country - Country Name GDP Table	WorldOMeters Web Page	Attach Detach Global Insert Invoke Lauro(Navigs	Send Key Events Send Keys Javascript Fragme Javascript Functi	N. <u>1</u>
	Pause After Each Step (timespan Move Up Move Dow Inputs	vn ()	Ad	d Remove
٢	Name >	Datatype Value		
Stage logging: Disabled	\sim			

Name	Launch Web Page											
Description:							~ ~					
Application Exp	lorer		Actions									
Filter the tre	e	X	Element			Params	Action		In	puts Set	t	
GDP B	eters Web Page y Country Link y Country Web Page		WorldON	Neters Web F	Page		Launch		∼ Y	es		
GDP b GDP b GDP T	y Country Search Bar y Country - Country Name able	on Tab										
			Pause A	after Each St	ep (timespan/	secs)	[
			Pause A Mov	after Each St	ep (timespan/ Move Dow	n ()	[Add		Remo)ve
			Pause A Mov	fter Each St	ep (timespan/ Move Dow	n ()	[Add		Remo	ove
			Pause A Mov Inputs Name Path	fter Each St	ep (timespan/ Move Dow	n i Datatype Text	Value		Add		Remo	Dve
			Pause A Mov Inputs Name Path Comma	fter Each St e Up ndLineParan	ep (timespan/ Move Dow	n () Datatype Text Text	Value	[Add		Remo	Dve
۲		>	Pause A Mov Inputs Name Path Comma ActiveT	e Up ndLineParan abOnly	ep (timespan/ Move Dow	n i Datatype Text Flag	Value	[Add		Remo	ove
<tage logging:<="" td=""><td>Disabled</td><td>></td><td>Pause A Mov Inputs Name Path Comma ActiveT:</td><td>ifter Each St e Up ndLineParan abOnly</td><td>ep (timespan/ Move Dow</td><td>n () Datatype Text Text Flag</td><td>Value</td><td>[</td><td>Add</td><td></td><td>Remo</td><td>ove ve</td></tage>	Disabled	>	Pause A Mov Inputs Name Path Comma ActiveT:	ifter Each St e Up ndLineParan abOnly	ep (timespan/ Move Dow	n () Datatype Text Text Flag	Value	[Add		Remo	ove ve

SECTION 3.3.2

Create and Configure the "Wait" tool

CREATE AND CONFIGURE THE "WAIT" TOOL

- 1. Use the "Wait" tool to validate that the webpage has been launched
- 2. Double click on the "Wait" tool to open the "Wait Properties"
- 3. Rename the "Wait 1" to "GDP by Country link exists"
- 4. Drag the "GDP by Country link" from the Applications Explorer to the Actions Element window
- 5. Select the "Conditions" drop down menu and select the "Check Exists" action

USE THE "WAIT" TOOL TO VALIDATE THAT THE WEBPAGE HAS BEEN LAUNCHED



DOUBLE CLICK ON THE "WAIT" TOOL TO OPEN THE "WAIT PROPERTIES"

Name: Wait1		
Description:	Ŷ	
Application Explorer	Actions	Data Explorer
Filter the tree	Element Params Condition Type Comparison Value	Group:
WorldOMeters Web Pag GDP By Country Link GDP by Country Web		Page 🗹 Data Type
— GDP by Country Sea — GDP by Country - Co — GDP Table	Move Up Move Down 1 Add Remove	Binaries Collections Dates DateTimes Flags Images Numbers Passwords Text TimeS TimeSpans
<	Timeout (timespan/secs): 5	

RENAME THE "WAIT 1" TO "GDP BY COUNTRY LINK EXISTS"

•											
Name: GDP	by Country Link	exists									
Description:							~ ~				
Application Explorer Filter the tree GDP By Coun GDP Table	X Veb Page try Link try Web Page try Search Bar try - Country I	Actions Element <unknown e<="" th=""><th>Params Jen</th><th>Condition</th><th>Туре</th><th>Comparison</th><th>n Value</th><th>Data Explore Group: Page View All Binarie Collect Dates Dates Flags Innages</th><th>er Da Items is ions mes</th><th>ita Type</th><th></th></unknown>	Params Jen	Condition	Туре	Comparison	n Value	Data Explore Group: Page View All Binarie Collect Dates Dates Flags Innages	er Da Items is ions mes	ita Type	
		Move Up		Move Down	Ô	Add	Remove	- Passwo - Text - Times	ords		
		Name		Dat	atype	Value		TimeSp	oans		
<	>			Timeout	(timespan	secs): 5					
Stage logging:	Disable	d	\sim								
	0.1				-	A (0)	r 11 x	01/	_	<u> </u>	

DRAG THE "WORLDOMETER WEB PAGE" FROM THE APPLICATIONS EXPLORER TO THE ACTIONS ELEMENT WINDOW

Name: IGDP by Country Lin	exists			
Description:	^ ~			
Application Explorer Filter the tree GDP by Country Link GDP by Country Web Page GDP by Country Search Bar GDP by Country - Country I GDP Table	Actions Element Params Condition Type Comparison Value GDP By Country V	Data Explor Group: Page View All Binarie Collect Dates DateTi Flags Numb Passw Text TimeSj	er Data Type I Items es tions mes s ers ords	
< >>	Timeout (timespan/secs): 5]		

SELECT THE "CONDITIONS" DROP DOWN MENU AND SELECT THE "CHECK EXISTS" CONDITION

Name: Wait1		
Description:	^ ~	
Application Explorer Filter the tree GDP By Country Link GDP by Country Web GDP by Country Searc GDP by Country Searc GDP by Country Searc GDP by Country - Cou GDP Table	Actions Element Params Condition Type Comparison Value GDP By Country GDP By Country Check Exists Check HTML Check URL D Document Loa Parent Docum	Data Explorer Group: Page Data Type View All Items Group: Collections Data Data Type Finaries Data Data Data Data Data Data Data Dat
	Move Up Move Down () Add Remove Inputs Value Value	- Frags - Images - Numbers - Passwords - Text - Times - TimeSpans
<	> Timeout (timespan/secs): 5	

SECTION 3.3.3

Create and Configure the "Exception" tool

CREATE AND CONFIGURE THE "EXCEPTION" TOOL

- 1. Use the "Exception" tool to ensure that exceptions and errors are highlighted
- 2. Double click on the "Exception" tool to open the "Exception Properties"
- 3. Rename the "Exception 1" to "GDP by Country link does not exist"
- 4. Select the "Exception Type" drop down menu and select the "System Exception" type and repeat the "GDP by Country link does not exist" in Exception Detail
- 5. Link the stages together using the "Link" tool

USE THE "EXCEPTION" TOOL TO ENSURE THAT EXCEPTIONS AND ERRORS ARE HIGHLIGHTED



DOUBLE CLICK ON THE "EXCEPTION" TOOL TO OPEN THE "EXCEPTION PROPERTIES"

Name:	Exception1	
Description:		
Exception Type		Exceptions
Exception Detail		generalise the cause of the exception.
	Preserve the type and detail of the current exception	 Exception detail can be used to get any additional values from the process.
	Save screen capture	
tage logging:	Enabled ~	
	Sustem Default V Number of minutee 5 (0 to disable)	OK Cancel

RENAME THE "EXCEPTION 1" TO "GDP BY COUNTRY LINK DOES NOT EXIST"

Name: GDP by	Country link does not exis	t					
Description:				< v			
Exception Type				~	Exception Typ • Choose an	e existing exc	eption
Exception Detail	erve the type and detail o	f the current exception			 type from the Create a ne entering text. 	dropdown. w exception	type by
Save	screen capture						
tage logging:	Enabled	~					
	Custom Default	Number of minutes	5 4	(0 to disable)	OK		ancel

SELECT THE "EXCEPTION TYPE" DROP DOWN MENU AND SELECT THE "SYSTEM EXCEPTION" TYPE AND REPEAT THE "GDP BY COUNTRY LINK DOES NOT EXIST" IN EXCEPTION DETAIL

Name:	iDP by Country link does not exist			
Description:				
Exception Type	System Exception ~	Exception T • Choose	ype an exist	tina exceptio
Exception Detail	"GDP by Country link does not exist"	type from t • Create a entering te	he drop new ex xt.	down. ception type
C] Save screen capture			
tage logging:	Enabled \lor			
/arning threehold:	System Default V Number of minutes 5 (0 to disable)	OK		Cancel

LINK THE STAGES TOGETHER USING THE "LINK" TOOL



SECTION 3.4.

The Attach Action in Business Objects

SECTION 3.4.1

Using the "Read" tool

THE ATTACH ACTION IN BUSINESS OBJECTS

- 1. In the Pages section, right click to open the pages menu and select "New"
- 2. Name the new page "Attach Webpage"
- 3. Add a "Read" tool to the page
- 4. Double click on the "Read" tool to open the "Read Properties"
- 5. Rename the "Reader 1" to "Read if Web Page is Connected"
- 6. Drag the "WorldOMeter web page" from the Applications Explorer to the Actions Element window
- 7. Select the "Data" drop down menu and select the "Is Connected" attribute
- 8. In the "Store In" option, select the icon to create a "Value From" Data tool.
- 9. Add a "Decision" tool to validate whether the webpage is connected or not
IN THE PAGES SECTION, RIGHT CLICK TO OPEN THE PAGES MENU AND SELECT "NEW"



NAME THE NEW PAGE "ATTACH WEBPAGE"



ADD A "READ" TOOL TO THE PAGE



DOUBLE CLICK ON THE "READ" TOOL TO OPEN THE "READ PROPERTIES"

Name: Reader1						
Description:					< >	
Application Explorer	Actions					Data Explorer
Filter the tree	Element	Params	Data	Data Type	Store In	Group:
WorldOMeters Web Page	<unknown elemen<="" td=""><td>t</td><td>~</td><td></td><td>9</td><td>🗌 Page 🛛 🗹 Data Type</td></unknown>	t	~		9	🗌 Page 🛛 🗹 Data Type
GDP By Country Link GDP by Country Web Pa	j ,					View All Items
GDP by Country - Count GDP Table	Move Up	Move	Down	Add	Remove	Binaries Collections Dates DateTimes Flags Images Numbers Passwords Text TimeSpans
< Stage logging: Dis	bled		Dailype			

RENAME THE "READER 1" TO "READ IF Web page is connected"



DRAG THE "WORLDOMETER WEB PAGE" FROM THE APPLICATIONS EXPLORER TO THE ACTIONS ELEMENT WINDOW

Name: Read	f Web Page i	s Connected				<				
Application Explorer	×	Actions Element	Params	Data	Data Type	Store In	Data Explore	er.		
WorldOMeters W GP By Count GP by Count GP by Count GP by Count GDP Table	eb Page y Link y Web Pagi y Search Ba y - Country	Move Up Inputs Name	Move	Down	Add	Remove	 Page ✓ View All Binarie Collect Dates DateTir Flags Images Numbe Passwe Text TimeSp 	✓ Data Items s ions mes ; ers ords	Туре	
<	> Disab	led V								

SELECT THE "DATA" DROP DOWN MENU AND SELECT THE "IS CONNECTED" ATTRIBUTE

Name: F	Read if Web Page is	Connected					
Description:						~ >	
Application Explor	er	Actions					Data Explorer
Filter the tree	Χ.	Element	Params	Data	Data Type	Store In	Group:
	ers Web Page	WorldOMeters Web		~	Unknown	0	🗌 Page 🛛 Data Type
GDP by C GDP by C GDP by C	ountry Link ountry Web Page ountry Search Ba			Get Bounds Get Conflicting Fo Get Document UR			View All Items
GDP by C	ountry - Country			Get Document UR			Collections
GDP Tabl	·			HTML Snapshot			Dates
				Is Connected Snapshot			DateTimes
				Chaponor	1		Flags
							Images
							Passwords
		Move Up	Move	Down	Add	Remove	···· Text
		Inputs					TimeSpans
		Name		Datatype	Value]
۲	>						
~	P. 11	1					

IN THE "STORE IN" OPTION, SELECT THE LITTLE ICON TO CREATE A "VALUE FROM" DATA TOOL.

Reader Properties		? - □ >
Name: Read if Web Page is Connected		
Description:		~
pplication Explorer	Actions	Data Explorer
Filter the tree	Element Params Data Data Type Store In	Group:
WorldOMeters Web Page GDP By Country Link GDP by Country Web Page GDP by Country Search Bar GDP by Country - Country Name on Tabl GDP Table	WorldOMeters Web Is Connected Value from WorldOMeters Web Page	Page Data Type View All Items Binaries Collections Dates DateTimes Hags Value from WorldOMeters Web Page Images Numbers Passwords
	Move Up Move Down () Add Remove	Text Times TimeSpans
	Name Datatype Value	
<		
age logging: Disabled	v	
arning threshold: System Default	✓ Number of minutes 5 ≜ (0 to disable)	OK Cancel

SECTION 3.4.2

Using the "Decision" tool

THE ATTACH ACTION IN BUSINESS OBJECTS

- 1. Add a "Decision" tool to validate whether the webpage is connected or not
- 2. Double click on the "Decision" tool to open the "Decision Properties"
- 3. Rename the "Decision 1" to "Web Page is Connected"
- 4. Drag the "Value from WordOMeters Web Page" Data Flag
- 5. Add a "Notes" tool and "Navigate" tool to the page
- 6. Add an "Anchor" tool to help link the "Navigate" tool to the "End"
- 7. Link all the stages from Start to End, ensure that the Decision stage "Yes" goes to notes, and "No" goes to the Navigate panel.

ADD A "DECISION" TOOL TO VALIDATE Whether the Webpage is connected or Not



DOUBLE CLICK ON THE "DECISION" TOOL TO OPEN THE "DECISION PROPERTIES"

Name: Webpage is Connec	ted	
Description:		•
Validate Evaluate Expression Validate Evaluate Expressio Functions Conversion Data Data Data Data Data Date Data Date Date Date	on Function Detail Expression Function Builder Use this area to compose a function statement and paste it into the expression. Select a function from the list on the left. The function details and the required parameters will be shown here. Complete the details either by entering values or by dragging in data items from the list on the right. When the details are complete, send the v	Data Items Group: Page Data Type ✓ View All Items Binaries Collections Date S Date Times Flags Images Numbers Passwords Text Times TimeSpans
Stage logging: Disabl	ed ~	

RENAME THE "DECISION 1" TO "WEB PAGE IS CONNECTED"

Name:	Webpage is Connected		
Description:			~
Validate Validate Validate Conversion Conversion Data Data Environment Environ	Evaluate Expression	unction Detail Expression Function Builder Jse this area to compose a function statement and paste into the expression. Select a function from the list on the left. The function details and the required parameters will be shown here. Complete the details either by entering values or by dragging in data items from the list on the right. When the details are complete, send the	Data Items Group: Page Data Type View All Items Binaries Collections Dates DateTimes Flags Images Numbers Passwords Text Times TimeSpans
Stage logging:	Disabled	~	

DRAG THE "VALUE FROM WORDOMETERS WEB PAGE" DATA FLAG

Name: Webp	age is Connected		
Description:			< v
Expression			Data Items
[Value from World	Meters Web Page]		Group:
			🗌 Page 🛛 Data Type
			View All Items
			Binaries
			Collections
			DateTimes
Validate Evalu	uate Expression		
Functions		Eurotion Datail	Value from WorldOMeters Web Page
		Expression Function Builder	Images
Data		Use this area to compose a function statement and paste	Numbers
		it into the expression.	Passwords
			Text
		function details and the required parameters will	Times
⊕ File		be shown here.	TimeSpans
. Logic		by dragging in data items from the list on the	
. ••• Number		right.	
		when the details are complete, send the	
Stage logging:	Disabled ~		

ADD A "NOTES" TOOL AND "NAVIGATE" TOOL TO THE PAGE



ADD AN "ANCHOR" TOOL TO HELP LINK THE "NAVIGATE" TOOL TO THE "END"



LINK ALL THE STAGES FROM START TO END



SECTION 3.4.3

Using the "Notes" tool

THE NOTES ACTION IN BUSINESS OBJECTS

- 1. Double click on the "Notes" tool to open the "Notes Properties"
- 2. Rename the "Note 1" to "Web Page already Connected"
- 3. Add a note text describing what the note indicates

DOUBLE CLICK ON THE "NOTES" TOOL TO OPEN THE "NOTES PROPERTIES"

Note Prope	erties	?	—	
Name:	Note 1			
Note Text:	new note			^
				~
tage logging:	Disabled \checkmark			
/arning thresho	Id: System Default V Number of minutes 5 (0 to disab	ble) O	К	Cancel

RENAME THE "NOTE 1" TO "WEB PAGE ALREADY CONNECTED"

				-	
Name:	Webpage Already Connected				
N . T .					
Note Lext:	new note				^
			 		 ~
tage logging:	Disabled	\sim			
			(0) - (01/	Consel

ADD A NOTE TEXT DESCRIBING WHAT THE NOTE INDICATES

Note Propert	les	ſ	_		~
Name:	Webpage Already Connected				
Note Text:	Internet explorer is already connected to the worldometers webpage				~
					\vee
tage logging:	Disabled ~	_			
	Custom Default	0		Cana	-

SECTION 3.4.4

Using the "Navigate" tool

THE ATTACH ACTION IN BUSINESS OBJECTS

- 1. Double click on the "Navigate" tool to open the "navigate Properties"
- 2. Rename the "Navigate 1" to "attach webpage"
- 3. Drag the "WorldOmeters WEB PAGE" from the application explorer to the action elements
- 4. Select the action to "Attach"

DOUBLE CLICK ON THE "NAVIGATE" TOOL TO OPEN THE "NAVIGATE PROPERTIES"

Name: Navigat	e1								
Description:					<u>^</u>				
					\sim				
Application Explorer		Actions							
Filter the tree	×	Element		Params	Action		Inputs S	Set	
WorldOMeters Wel	b Page					~	N/A		_
GDP By Country	Link Web Page				ļ				_
GDP by Country	Search Bar								
GDP by Country	- Country Name on Tal	b							
GDP Table									
		Pause After Each	Step (timespan/secs)						
		Move Up	Move Down	8		A	Add	Rem	ove
		Move Up	Move Down	0		A	\dd	Rem	ove
		Move Up	Move Down	0		A	Add	Rem	ove
		Move Up Inputs Name	Move Down Data	type	Value	A	\dd	Rem	ove
		Move Up Inputs Name	Move Down	i type	Value	A	Add	Rem	ove
		Move Up Inputs Name	Move Down	type	Value	4	\dd	Rem	ove
		Move Up Inputs Name	Move Down Data	type	Value	4	\dd	Rem	ove
¢	>	Move Up Inputs Name	Move Down Data	()	Value	A	ldd	Rem	ove
<	Disabled	Move Up Inputs Name	Move Down Data	type	Value	4	Add	Rem	ove

RENAME THE "NAVIGATE 1" TO "ATTACH WEBPAGE"

Name:	Attach Web Page							
Description:				~				
Application Exp	lorer	Actions						
Filter the tre	e	Element	Params	Action		Inputs	Set	
GDP b	eters Web Page y Country Link y Country Web Page				~	N/A		
GDP1	able							
		Pause After Each Step Move Up Inputs Name	(timespan/secs) Move Down	Value	<u>م</u>	Add	Rem	ove
<		Pause After Each Step Move Up Inputs Name	(timespan/secs) Move Down 1	Value	<u>م</u>	kdd	Rem	ove

DRAG THE "WORLDOMETERS WEB PAGE" FROM THE APPLICATION EXPLORER TO THE ACTION ELEMENTS

Name:	Attach Web Page						
Description:				< >			
Application Exp	lorer	Actions					
Filter the tree		Element	Params	Params Action		Inputs Set	
GDP E GDP E GDP E GDP E GDP E GDP T	erers web Page y Country Link y Country Web Page y Country Search Bar y Country - Country Name on Ta able	WorldOMeters Web Page		Attach	×	Yes	
		Pause After Each Step (ti Move Up M	mespan/secs) love Down		Ac	dd R	emove
		Pause After Each Step (ti Move Up M Inputs Name	mespan/secs) love Down	Value	Ac	dd R	emove
		Pause After Each Step (ti Move Up M Inputs Name Window Titles (as Collected	Inve Down Datatype vn) Collection	Value	Ac	dd R	emove
		Pause After Each Step (ti Move Up M Inputs Name Window Titles (as Collection Window Title	mespan/secs) love Down Datatype in) Collection Text	Value	Ac	dd R	emove
۲		Pause After Each Step (ti Move Up M Inputs Name Window Titles (as Collection Window Title Process Name	Inve Down () Datatype In) Collection Text Text	Value	Ac	dd R	emove
<	Disabled	Pause After Each Step (ti Move Up M Inputs Name Window Titles (ss Collector Window Title Process Name	mespan/secs) love Down Datatype m) Collection Text Text	Value	Ac	dd R	emove

SELECT THE ACTION TO "ATTACH"

	Attach Web P	age									
Description:							~ ~				
Application Exp	plorer			Actions							
Filter the tr	ee	>	K	Element		Params	Action		Inputs	Set	
GDP 1	leters Web Page By Country Link by Country Web by Country Seard by Country - Cou able	e Page ch Bar untry Name on T	ab	WorldOMeters Web F	Page		Attach	~	Yes		
				Pause After Each St Move Up	ep (timespan/se Move Down	ecs)	[Add	Remov	ve ve
				Pause After Each St Move Up Inputs Name	ep (timespan/se Move Down	ecs) Datatype	Value		Add	Remov	/e
				Pause After Each St Move Up Inputs Name Window Titles (as Co	ep (timespan/se Move Down	ecs) a a a a a a a a a a a a a a a a a a a	Value		Add	Remov	ve //e
				Pause After Each St Move Up Inputs Name Window Titles (as Co Window Title	ep (timespan/se Move Down Ection) C	ecs) Datatype Collection Text	Value		Add	Remov	ve //e
<			>	Pause After Each St Move Up Inputs Name Window Titles (as Co Window Title Process Name	ep (timespan/se Move Down [ection]]	ecs) Datatype Collection Text	Value		Add	Remov	ve

SECTION 3.5

Using BP to interact with the webpage

SECTION 3.5.1

Clicking links on the Web Page

THE ATTACH ACTION IN BUSINESS OBJECTS

- 1. Launch IE through the "Launch" page in Object Studio
- 2. Create a new page and name the page "Click on GDP Hyperlink"
- 3. Select the "Page" tool from the tool bar and click between the 'Start' and 'End' Stages
- 4. Configure and reference the "Attach" page
- 5. Create a "Wait" stage from the previous example
- 6. Create an "Exception" stage from the previous example
- 7. Create a "Navigation" stage to click on the GDP Hyperlink
- 8. Use another "Wait" stage to verify that the "GDP by Country" page is open
- 9. Link all the different stages

CREATE A NEW PAGE AND NAME THE PAGE "CLICK ON GDP HYPERLINK"



SELECT THE "PAGE" TOOL FROM THE TOOL BAR AND CLICK BETWEEN THE 'START' AND 'END' STAGES



CONFIGURE AND REFERENCE THE "ATTACH" PAGE

Wew Page Wizard	? ×	New Page Wizard	? ×
Create a new page or a reference to an existing page		Choose the page you want to reference	
Create a reference to an existing page		Existing pages	
Add a new page and create a reference to it			
O Add a new page without creating a reference to it		Citit of CDB by with	
< Back	Next > Cancel		< Back Finish Cancel

ATTACH A "WAIT" STAGE FROM THE PREVIOUS EXAMPLE

Wait Properties		? – 🗆 ×
Name: GDP By Country Link Exists		
Description:		
Application Explorer Terr the tree GDP Sy Country Link GDP by Country Web Page GDP by Country Veb Page GDP by Country Search Bar GDP by Country - Country Name on Tat GDP Table	Actions Element Params Condition Type Comparison Value GDP By Country Check Exi V Rag = (Equ V True	Data Explorer Group: Page Data Type View All Items Binaries Collections Dates Dates DateS DateTimes Flags Images Numbers Passwords
	Move Up Move Down () Add Remove	– Text – Times – TimeSpans
	Name Datatype Value	
< >>	Timeout (timespan/secs): 5	
Stage logging: Disabled	∨ Number of minutes 5	OK Cancel

CREATE AN "EXCEPTION" STAGE FROM THE PREVIOUS EXAMPLE

Exception Prop	perties	?	-		×
Name: Hy	yperlink does not exist				
Description:	~ ~				
Exception Type	System Exception ~	Exception	Detail	oon he o	-
Exception Detail	"GDP by Country Hyperlink does not exist." Image: Preserve the type and detail of the current exception	If you ju remembe quote ma	omate exp ust need s r to enclo rks.	some text	: xt in
] Save screen capture				
Stage logging: Warning threshold:	Enabled V System Default V Number of minutes 5 (0 to disable)	ОК		Can	cel
CREATE A "NAVIGATION" STAGE TO CLICK ON THE GDP HYPERLINK BY USING THE "CLICK CENTER" ACTION

Navigate Properties		?	_	
Name: Click on Hyperlink Description:	,	^		
		>		
	Actions			
Filter the tree	Element Params Action		Inputs S	iet
GDP By Country Link	GDP By Country Link Click C	Centre	V/A	
GDP by Country Web Page GDP by Country Search Bar GDP by Country - Country Name GDP Table	Pause After Each Step (timespan/secs) Move Up Move Down	1	Add	Remove
	Inputs			
	Name Datatype Value			
<	>			
/arning threshold: System Defa	it Vumber of minutes 5 + (0 to disable)	(UK	Cancel

USE ANOTHER "WAIT" AND "EXCEPTION" Stage to verify that the "GDP by Country" page is open

Verfuthe CDB Pa	austra Web Deer Gritte	
Description:	ounity web rage Eusis	
pplication Explorer	Actions	Data Explorer
Hiter the tree WorldOMeters Web Page GDP by Country Link GDP by Country Web Page GDP by Country Veb Page GDP by Country Search Ba GDP by Country - Country GDP Table	Element Params Condition Type Comparison Value GDP by Country Check Exi Rag = (Equ True []	Group: Page Data Type View All Items - Collections - Dates - DateTimes - Flags - Images - Numbers - Passwords
	Move Up Move Down Add Remove	- Text - Times - TimeSpans
Kana logging:	Timeout (timespan/secs): 5	
Disd		

Name: GE	OP by Country Web Page does not exist					
Description:		< <				
Exception Type Exception Detail	System Exception "Unable to load the GDP by Country web page" Preserve the type and detail of the current exception	~	 Exception Except valid autor If you j remember quote matrix 	Detail tion detail omate ex ust need er to enclo arks.	l can be ar pression. some text ose the tex	ıy tt in
tage logging:	Enabled V	-11-)			0.00	

LINK ALL THE STAGES



SECTION 3.5.2

Inputting data into the Web Page

THE ATTACH ACTION IN BUSINESS OBJECTS

- 1. Create a new page and name the page "Search for Country"
- 2. Use the "Page" tool to link to the "attach" page as in the previous example
- 3. Use the "Wait" Tool to validate that the "Search" box exists
- 4. Create an "Exception" as in the previous examples
- 5. Use the "Navigate" stage to click and interact with the Search Box
- 6. In the "INPUT" section, select the icon next to the text
- 7. Drag and drop the "Country Name" text data item from the right to the expression tab
- 8. Link all the stages together.

CREATE A NEW PAGE AND NAME THE PAGE "SEARCH FOR COUNTRY"



USE THE "PAGE" TOOL TO LINK TO THE "ATTACH" PAGE AS IN THE PREVIOUS EXAMPLE



USE THE "WAIT" TOOL TO VALIDATE THAT THE "SEARCH" BOX EXISTS

Wait Properties		? – 🗆 ×
Name: GDP by Country Search Bar Exists Description:		
Application Explorer	Actions	Data Explorer
Filter the tree GVP Filter the tree GVP By Country Unk GOP by Country Web Page GOP by Country Web Page GOP by Country Search Bar GOP by Country - Country Name on Table GDP Table	Element Params Condition Type Comparison Value GDP by Country Search Bar Check Exi Rag = (Equ True Move Up Move Down Image: Add Remove	Group: Page Data Type View All Items - Collections - Dates - DateTimes - Tags - Images - Numbers - Passwords - Text - Times
	Name Datatype Value Timeout (timespan/secs): s	L TimeSpans
Stage logging: Disabled Warning threshold: System Default	✓ Number of minutes 5 ≑ (0 to disable)	OK Cancel

CREATE AN "EXCEPTION" AS IN THE PREVIOUS EXAMPLES

Name: Se	earch Bar does not exist		
Description:	< >		
Exception Type	System Exception V	Exception Detail	be anv
Exception Detail	"Search box does not exist."	 If you just need some remember to enclose to quote marks. 	sion. e text he text i
	Save screen capture		
age logging:	Enabled ~		
arning threshold:	System Default V Number of minutes 5 (0 to disable)	OK	Cancel

CREATE A TEXT DATA ITEM FOR COUNTRY NAME

Block							
Read	GDP by Country - Search for Country	🔹 🕸 Data Proper	ties		? –		×
Write							
> Navigate		Name:	Country Name				
Code		Description:	~				
🗂 Wait		-					
Process	Data1						
Page		-	×				
Action							
Oecision		Data Type	Tavt	Тех	ct		
🝚 Choice			ICAL	Te	ext items are u	used to sto	re
\bigcirc Calculation		Initial Value	India	a	phanumeric d	dld.	
Dulti Calc				Th	his information	n may be n	ames,
Data Item		Exposure	None 🗸	et	tc.	phone num	Ders,
Collection		Current Value					
Loop		Current Value					
Note		Visibility	✓ Hide from other pages in the process				
O Anchor		Initialisation	Reset to Initial Value whenever this page runs				
End							
Exception							
Recover					ОК	Can	cel
Resume		1					

USE THE "NAVIGATE" STAGE TO CLICK AND INTERACT WITH THE WEB PAGE AND INPUT DATA INTO THE SEARCH BOX

Navigate Properties						۲ ا	_	
Name: Search by Country Description:					^			
pplication Explorer	Actions							
Filter the tree	Element	Params	Action	Inputs Set				
GDP By Country Link	GDP by Country Web Page		Activate Application	N/A				
GDP by Country Web Page	GDP by Country Search Bar		Global Mouse Click Centre	No				
···· GDP by Country Search Bar ···· GDP by Country - Country Name on Table	WorldOMeters Web Page		Global Send Key Event 🗸	Yes				
	Pause After Each Step (timesp Move Up Move I	an/secs))own	1			4	Add	Remov
	Inputs							
	Name	Datatyp	e Value					
	Text	Text						[
	Interval	Number						
age logging: Disabled ~								
arning threshold: System Default ~ Numb	ber of minutes 5 🜲 (0 to dis	able)				OK		Cancel

IN THE "INPUT" SECTION, SELECT THE ICON NEXT TO THE TEXT

ame: Search by Country escription:					~ ~			
plication Explorer	Actions							
Filter the tree	Element	Params	Action	Inputs Set				_
WorldOMeters Web Page	GDP by Country Web Page		Activate Application	N/A				
GDP by Country Web Page	GDP by Country Search Bar		Global Mouse Click Centre	No				
···· GDP by Country Search Bar ···· GDP by Country - Country Name on Table	WorldOMeters Web Page		Global Send Key Event 🗸	Yes				
	Pause After Each Step (timesp Move Up Move I	an/secs) Down	1			Add	Rem]
	Pause After Each Step (timesp Move Up Move 1 Inputs	an/secs) Down	1			Add	Rem]
	Pause After Each Step (timesp Move Up Move I Inputs Name	an/secs) Down	1 e Value			Add	Rem]
	Pause After Each Step (timesp Move Up Move I Inputs Name Text	an/secs) Down	1			Add	Ren] no
	Pause After Each Step (timesp Move Up Move I Inputs Name Text Interval	an/secs) Down	1 e Value			Add	Rem] nc
	Pause After Each Step (timesp Move Up Move I Inputs Name Text Interval	an/secs) Down Datatype Text Number	e Value			Add	Rem] no
⊧ logging:	Pause After Each Step (timesp Move Up Move 1 Inputs Name Text Interval	an/secs) Down	L Value			Add	Ren	

DRAG AND DROP THE "COUNTRY NAME" TEXT DATA ITEM FROM THE RIGHT TO THE EXPRESSION TAB

Expression Chooser		? –	
Create an expression using drag o	drop operations		
xpression Country Name]		Data Items Group: Page Data Type View All Items Binaries Collections Dates	
Validate Expression Unctions U	Function Detail Expression Function Builder Use this area to compose a function statement and paste it into the expression. Select a function from the list on the left. The function details and the required parameters will be shown here. Complete the details either by entering values or by dragging in data items from the list on the right. When the details are complete, send the	DateTimes Flags Images Numbers Passwords Text Country Name Times TimeSpans	

CINFIGURE THE "START" STAGE TO HAVE THE INPUT DATA STAGE, DOUBLE CLICK TO OPEN PROPERTIES



ADD AN INPUT

- state ropertie				_		i	
Name:	Start						
Description:				\sim			
nputs						Group:	
Name	Description	Data Type	Store In		>	 Page View A Binari Collec Dates Dates Dates Dates Tags Image Numt Passw Text Times 	Data Type
Move Up	Move Down			Add	Remove		
age logging:	Disabled	~				_	
arning threshold	System Default	 Number of m 	inutes 5	(0 to dis	able)	OK	Cance

Name:	Start						
Description:				 			
Inputs					Group:		
Name	Description	Data Type	Store In		Page	🗹 Data Type	
Country Name		Text 🔻	0		View Al	ll Items	
<				>	Binari Collec Dates Flags Inage Numb Passw Text Times	es tions imes es vers vords puntry Name pans	
Move Up	Move Down		Add	Remove			

DRAG THE "COUNTRY NAME" DATA TYPE TO THE "STORE IN" SECTION OF THE INPUT



LINK ALL THE STAGES TOGETHER



SECTION 3.5.3

Selecting the data on the webpage

THE ATTACH ACTION IN BUSINESS OBJECTS

- 1. Create a new page and name the page "Click on Desired Country"
- 2. Use the "Page" tool to link to the "attach" page as in the previous example
- 3. Use the "Wait" Tool to validate that the searched country name exists
- 4. Use the "Navigate" stage to click and interact with the desired country
- 5. Create an "Exception"
- 6. Use the "Navigate" tool and use the actions to click on the desired country

CREATE A NEW PAGE AND NAME THE PAGE "CLICK ON DESIRED COUNTRY"



USE THE "PAGE" TOOL TO LINK TO THE "ATTACH" PAGE AS IN THE PREVIOUS EXAMPLE



USE THE "WAIT" TOOL TO VALIDATE THAT THE SEARCHED COUNTRY NAME EXISTS

Wait Properties		? – 🗆 ×
Name: Check whether se Description: Application Explorer	Actions	Data Explorer
Filter the tree rdOMeters Web Page GDP By Country Link GDP by Country Web Page GDP by Country Search Bar GDP by Country - Country Name of GDP Table	Element Params Condition Type Comparison Value GDP by Country Check Exi Flag = (Equ True E	Group: Page Data Type View All Items - Collections - Dates - DateTimes - Flags - Images - Numbers
	Move Up Move Down 1 Add Remove	Passwords Text Times TimeSpans
<	Timeout (timespan/secs): 5	
Narning threshold: Syst	tem Default ∨ Number of minutes 5 🗘 (0 to disable)	OK Cancel

CREATE AN EXCEPTION

Exception Prop Exception Prop	perties				?	-		×	
Name: C	Country Name								
Description:				<u>^</u>					
				~					
Exception Type	System Exception			~	Exception	Detail			
					• Except	tion detai	l can be a	ny	
Exception Detail	• If you i	ust need	pression. some text	•					
Г	Preserve the type and detail	Lof the current exception			remember quote ma	remember to enclose the text in quote marks.			
L]								
] Save screen capture								
Stage logging:	Enabled	\sim							
Warning threshold:	System Default	 Number of minutes 	5 🌲	(0 to disable)	OK		Can	cel	

USE THE "NAVIGATE" STAGE TO CLICK AND INTERACT WITH THE DESIRED COUNTRY

Name:	Click on Desired Country								
Description:					< >				
Application Exp	lorer	Actions							
Filter the tre	e 🗙	Element		Params	Action		Inputs	Set	
GDP B	eters Web Page / Country Link	GDP by Country - (Country Name on Table		Click Centre	~	N/A		
GDI II									
		Pause After Each Move Up Inputs	Step (timespan/secs) Move Down	()	1 Value	4	Add	Rem) [III

SECTION 3.5.4

Extracting the data on the webpage

THE ATTACH ACTION IN BUSINESS OBJECTS

- 1. Create a new page and name the page "Get GDP Table"
- 2. Use the "Page" tool to link to the "Attach" page as in the previous example
- 3. Use the "Wait" Tool to validate that the table exists
- 4. Use the "Navigate" stage to click and interact with the desired country
- 5. Create an "Exception"
- 6. Use the "Navigate" tool and use the actions to copy the data from the table
- 7. Select the icon in the "Store in" section to create a collection of data for the page
- 8. Link all the stages together

CREATE A NEW PAGE AND NAME THE PAGE "GET GDP TABLE"



USE THE "PAGE" TOOL TO LINK TO THE "ATTACH" PAGE AS IN THE PREVIOUS EXAMPLE



USE THE "WAIT" TOOL TO VALIDATE THAT THE TABLE EXISTS

CREATE AN "EXCEPTION"

Exception Prope	rties	?	—		×
Name: GD	P Table does not exist				
Description:	^				
	✓				
Exception Type	System Error V	Exception	1 Туре		
Exception Detail	"GDP Table does not exist"	Choos type from	e an exist n the drop	ting excep down.	otion
		Create entering	e a new ex text.	ception ty	pe by
	Preserve the type and detail of the current exception				
	Save screen capture				
-					
-					
Stage logging:	Enabled V			-	
Warning threshold:	System Default V Number of minutes 5 (0 to disable)	OF	(Can	el

USE THE "READ" TOOL AND USE THE ACTIONS TO COPY THE DATA FROM THE TABLE

Description:					< v				
Application Explorer	Actions					Data Explor	er		
Filter the tree	Element	Params	Data	Data Type	Store In	Group:			
WorldOMeters Web Page GDP By Country Link GDP by Country Web Page GDP by Country Web Page GDP by Country Search Ba GDP by Country - Country GDP Table	GDP Table		Get Table 🗸	Collection		 Page ✓ View Al — Binariu — Collect — Dates — DateTi ⊕ Flags — Image — Numb — Passw 	Data I Items es tions imes s ers ords	Туре	
	Move Up Inputs Name	Move	Down	Add Value	Remove	Times	pans		
< >> tage logging: Disabl	ed V								

SELECT THE ICON IN THE "STORE IN" SECTION TO CREATE A COLLECTION OF DATA FOR THE PAGE

Reader Properties	? – 🗆	× Reader Properties	? – 🗆 ×
Name: Reader1 Description:	<u>~</u>	Name: Reader1 Description:	Ŷ
Application Explorer Actions Actions Element Params GDP Table Move Up Move Inputs Name	Data Data Type Store In Get Table Collection Image: Store In Collection Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image: Store In Image:	Application Explorer Actions Filter the tree WorldOMeters Web Page GDP by Country Link GDP by Country Veb Page GDP by Country Search Ba GDP by Country - Country GDP Table Move Up Move Down Add Ren Inputs Name Datatype Value	Data Explorer Group: Page Data Type View All Items Group: Collections Collections Dates DateTimes Flags Flags Flags Numbers Passwords Text Times TimeSpans
Stage logging: Disabled Warning threshold: System Default	of minutes 5 🗢 (0 to disable) OK Cancel	el Stage logging: Disabled ~ Warning threshold: System Default ~ Number of minutes 5 + (0 to disable) OK Cancel

STORE OUTPUT IN THE END - DOUBLE CLICK "END" TO OPEN PROPERTIES

End Propertie	es							?	-		×
Name: Description:	End										
Outputs Name	GDPTable	Description	Data Type	Get Value	From			Group:	⊡ Dat	a Type	
Move Up	Move	: Down				Add	Remove	Binarie Collect Dates DateTin Flags Images Numbr Passwo Faxt TimeS TimeS	s ions mes ers ords		
Stage logging: Warning threshold	:	Disabled \checkmark System Default \checkmark	Number of minutes	5	(0 to disable)			0	ĸ	Car	ncel

LINK ALL THE STAGES TOGETHER



SECTION 3.5.5

Navigating back to home page

THE ATTACH ACTION IN BUSINESS OBJECTS

- 1. Create a New Page and name the page "Navigate Back"
- 2. Create a Data Item tool with the link to the GDP by Country webpage
- 3. Use the "Page" tool to link to the "Attach" page as in the previous example
- Use the "Navigate" stage to click go back to the GDP by Country Webpage
- 5. Link all the stages
- 6. Right click to Publish the Pages from Object Studio
- 7. Close and save the object studio
CREATE A NEW PAGE AND NAME THE PAGE "NAVIGATE BACK"



CREATE A DATA ITEM TOOL WITH THE LINK TO THE GDP BY COUNTRY WEBPAGE

🚯 Data Propert	ies	?	_		×
Name:	URL to GDP				
Description:	^				
	~				
Data Type	Text	Text			
Initial Value	https://www.worldometers.info/gdp/	alphanu	ms are us imeric dat	ed to stor a.	e
Exposure	None	This inf address etc.	ormation ses, telept	may be na hone num	ames, bers,
Current Value	https://www.worldometers.info/gdp/				
Visibility	Hide from other pages in the process				
Initialisation	Reset to Initial Value whenever this page runs				
		OK		Can	el

USE THE "PAGE" TOOL TO LINK TO THE "ATTACH" PAGE AS IN THE PREVIOUS EXAMPLE

<u> </u>			
hoose the page you want to reference			
Existing pages			
Launch WorldOMeters Webnage	7		
Attach Webpage			
Click on GDP Hyperlink			
Search for Country			
Click on Desired Country			
Navigate Back			
nungate back			

USE THE "NAVIGATE" STAGE TO CLICK GO BACK TO THE GDP BY COUNTRY WEBPAGE, ADD THE DATA ITEM TO THE URL STAGE

Navigate P	roperties				? – 🗆 🗙	Expression Chooser	? – 🗆 ×
Name: Description:	Navigate ¦o main page			^		Create an expression using drag drop operations	
Application Exp Filter the tre GOP b GOP b GDP b GDP b GDP b GDP b GDP t	plorer Pe X Ieters Web Page Py Country Link py Country Web Page py Country Search Bar py Country - Country Name on Tab able Disabled	Actions Element WorldOMeters Web Page Pause After Each Step (timespan/sed Move Up Move Down Inputs Name Da URL Te	Params	Action Navigate	Inputs Set	Expression [URL to GDP by Country] Validate Evaluate Expression Functions Conversion Data	Data Items Group: Page Data Type View All Items Binaries Collections DateS DateTimes Flags Inages Numbers Passwords Text Country Name URL to GDP by Country Times TimeSpans
Warning thresho	System Default	✓ Number of minutes 5	¢ (0 to c	disable)	OK Cancel		OK Cancel

LINK ALL THE STAGES



RIGHT CLICK TO PUBLISH THE PAGES FROM OBJECT STUDIO



CHAPTER 4

BluePrism Studios

SECTION 4.1

Creating a BluePrism Studio Process

CREATING A BLUEPRISM STUDIO PROCESS

- 1. Navigate back to the BluePrism Studio
- 2. Right click the Process Studio object and create a new group
- 3. Right click the Synapone bootcamp group and create a new process
- 4. Enter a description for the process

NAVIGATE BACK TO THE BLUEPRISM STUDIO



RIGHT CLICK THE PROCESS STUDIO OBJECT AND CREATE A NEW GROUP





RIGHT CLICK THE SYNAPONE BOOTCAMP GROUP AND CREATE A NEW PROCESS



ENTER A DESCRIPTION FOR THE PROCESS

New Process	? ×	New Process	? ×
Start work on a new process		Start work on a new process	
Enter a description of the process		Enter a description of the process	
		This Process will help with extracting the GDP by Country exercise for SynapOne	
< Back Finish	Cancel	< Back Finish	Cancel

SECTION 4.2

Importing VBOs

IMPORTING VBOS

- In the top left-hand corner select the file option and navigate through Import to Process / object
- 2. Select browse and Navigate through to C:\Program Files\Blue Prism Limited\Blue Prism Automate\VBO
- 3. Select the "BPA Object Utility Environment" and select open
- 4. Select the default "Next" till you reach the finish screen
- 5. Use the same steps to import BPA Object MS Excel & Outlook

IN THE TOP LEFT HAND CORNER SELECT THE FILE OPTION AND NAVIGATE THROUGH IMPORT TO PROCESS / OBJECT



SELECT BROWSE AND NAVIGATE THROUGH TO - C:\PROGRAM FILES\BLUE PRISM LIMITED\BLUE PRISM AUTOMATE\VBO

Choose the input fil	e(s)				
	× Blue P	Prism Limited > Blue Prism Automate > VBO	~	ට ,⊃ Search	VBO
Organize 🔻 New	folder				== -
1.0.11		Name	Date modified	Туре	Size
Quick access		BPA Object - Calendars	8/27/2020 4:52 PM	XML Document	50 KB
E Desktop	*	BPA Object - Data - OLEDB	8/27/2020 4:52 PM	XML Document	28 KB
🕂 Downloads	*	BPA Object - Data - SQL Server	8/27/2020 4:52 PM	XML Document	142 KB
🔮 Documents	*	BPA Object - Email - POP3_SMTP	8/27/2020 4:52 PM	XML Document	296 KB
Pictures	*	BPA Object - Google Sheets	8/27/2020 4:52 PM	XML Document	53 KB
📑 Videos	*	BPA Object - MS Excel	8/27/2020 4:52 PM	XML Document	494 KB
iCloud Drive	*	BPA Object - MS Outlook Email	8/27/2020 4:52 PM	XML Document	203 KB
		BPA Object - MS Word	8/27/2020 4:52 PM	XML Document	161 KB
Maal Daar Daar		BPA Object - System - Active Directory	8/27/2020 4:52 PM	XML Document	31 KB
Nieal Prep Reso	urce	BPA Object - Utility - Collection Manipulation	8/27/2020 4:52 PM	XML Document	181 KB
New folder		BPA Object - Utility - Date and Time Manipula	8/27/2020 4:52 PM	XML Document	51 KB
Nithin Resource	2	BPA Object - Utility - Encryption	8/27/2020 4:52 PM	XML Document	15 KB
OneDrive		BPA Object - Utility - Environment	8/27/2020 4:52 PM	XML Document	71 KB
	_	BPA Object - Utility - File Management	8/27/2020 4:52 PM	XML Document	144 KB
💻 This PC		BPA Object - Utility - Foreground Locker	8/27/2020 4:52 PM	XML Document	24 KB
Aetwork		BPA Object - Utility - General	8/27/2020 4:52 PM	XML Document	18 KB
-		BPA Object - Utility - HTTP	8/27/2020 4:52 PM	XML Document	59 KB
		BPA Object - Utility - Image Manipulation	8/27/2020 4:52 PM	XML Document	46 KB
F	ile name	e: BPA Object - Utility - Environment		Process/Obj	ect (*.bpprocess;*.k

SELECT THE BPA OBJECT - UTILITY -ENVIRONMENT AND SELECT OPEN

Import Process or Business Object

🛧 📙 « Blu	e Prism Limited > Blue Prism Automate > VBO	~	ට 🔎 Search	VBO
Organize 🔻 New folde	r			== -
	Name	Date modified	Туре	Size
🖈 Quick access	BPA Object - Calendars	8/27/2020 4:52 PM	XML Document	50 KB
📃 Desktop 🛛 🖈	BPA Object - Data - OLEDB	8/27/2020 4:52 PM	XML Document	28 KB
👆 Downloads 🛛 🖈	BPA Object - Data - SQL Server	8/27/2020 4:52 PM	XML Document	142 KB
🔮 Documents 🛛 🖈	BPA Object - Email - POP3_SMTP	8/27/2020 4:52 PM	XML Document	296 KB
📰 Pictures 🛛 🖈	BPA Object - Google Sheets	8/27/2020 4:52 PM	XML Document	53 KB
📑 Videos 🛛 🖈	BPA Object - MS Excel	8/27/2020 4:52 PM	XML Document	494 KB
iCloud Drive *	BPA Object - MS Outlook Email	8/27/2020 4:52 PM	XML Document	203 KB
	BPA Object - MS Word	8/27/2020 4:52 PM	XML Document	161 KB
Maal Dran Pasaures	BPA Object - System - Active Directory	8/27/2020 4:52 PM	XML Document	31 KB
Mear Prep Resource	BPA Object - Utility - Collection Manipulation	8/27/2020 4:52 PM	XML Document	181 KB
New folder	BPA Object - Utility - Date and Time Manipula	8/27/2020 4:52 PM	XML Document	51 KB
Nithin Resource	Brit Object Willity Encryption	0/27/2020 :52 PM	XML Document	15 KB
🔷 OneDrive	BPA Object - Utility - Environment	8/27/2020 :52 PM	XML Document	71 KB
		0/ 21/ 2020 4:52 PM	XML Document	144 KB
This PC	BPA Object - Utility - Foreground Locker	8/27/2020 4:52 PM	XML Document	24 KB
🔿 Network	BPA Object - Utility - General	8/27/2020 4:52 PM	XML Document	18 KB
-	BPA Object - Utility - HTTP	8/27/2020 4:52 PM	XML Document	59 KB
	BPA Object - Utility - Image Manipulation	8/27/2020 4:52 PM	XML Document	46 KB
File na	me: BPA Object - Utility - Environment		 Process/Obj 	ect (*.bpprocess;*.k

SELECT THE DEFAULT "NEXT" TILL YOU REACH THE FINISH SCREEN

Process / Object Name		leave .	Desclution	A delition of Information	
Utility - Environment	√ v	Issue	Resolution	Additional Information	

USE THE SAME STEPS TO IMPORT

- BPA Object MS Excel
- BPA Object MS Outlook Email

SECTION 4.3

Creating New Processes

CREATING A NEW BP STUDIO PROCESS

- 1. Open the GDP by country process
- 2. Create a new page named "Initialize"
- 3. Create a Collection stage with the new field name "processes"
- 4. Navigate to the initial values tab and add "EXCEL" and "IEXPLORE"
- 5. Drag and drop the "Action" Tool
- 6. Double click the action properties
- 7. In the business objects dropdown select "Utility environment" and in action select "Kill Process
- 8. Drag the "[Process.Process]" text value to the value in the inputs and select "OK"
- 9. Create a Loop section between the action stage
- 10. Double click to open the loop properties
- 11. Link All Stages

OPEN THE GDP BY COUNTRY PROCESS



CREATE A NEW PAGE NAMED "INITIALIZE"



CREATE A COLLECTION STAGE WITH THE NEW FIELD NAME "PROCESSES"

Collection	Properties	? —		Collection Properties	? – 🗆 🗙
Name:	Processes		-	Name: Processes	
Description:		^		Description:	
		¥.		v	
Fields Ini	tial Values Current Values			Fill Industration Concil Values	
Name	Type Description	Fields Fi	ields:	Name Type Description	Fields Fields:
			Import	Processes Text	Import
			Add		Add
			Remove		Remove
			Clear		Clear
Reset to Initia	al Value whenever this page runs 🛛 📈 Hide from other pages in the process 🔹 Single Roy	v		I Reset to Initial Value whenever this page runs R Hide from other pages in the process Single Row	
		ОК	Cancel		OK Cancel
1		ОК	Cancel		OK Cancel

NAVIGATE TO THE INITIAL VALUES TAB AND ADD "EXCEL" AND "IEXPLORE"

Collection Properties		?	-		×
Name: Processes					
Description:	<u>^</u>				
Fields Initial Values Connect Volume	~				
rocesses (lext)				Rows:	
XCEL					
EXPLORER .					
				Add	
				Remo	ve
Reset to Initial Value whenever this page runs 🛛 Hide from other pages in the process 🗌 Single Row					
		OK		Cance	el

DRAG AND DROP THE "ACTION" TOOL



DOUBLE CLICK THE ACTION PROPERTIES

Action Properties					?	-		×
Name: Exit Process Description: Kill Excel and	es d IE Processes			< >				
Business Object None Action Inputs Outputs Conditions Name	Data Type	Value			Group: ☐ Page ☑ View Al Binariu ⊕ Collecc □ Dates □ DateTi □ Flags □ Image □ Numb □ Passw ⊕ Text □ TimeS	Dat I Items es tions imes s eers ords pans	a Type	
Stage logging: Warning threshold:	Errors only System Default V	Don't log parameters o Number of minutes	n this stage	(0 to disable)	ОК		Cano	el

IN THE BUSINESS OBJECTS DROPDOWN SELECT "UTILITY – ENVIRONMENT" AND IN ACTION SELECT "KILL PROCESS

Action Properties	? – 🗆 ×	Action Properties	? – 🗆 🗙
Action Properties Name: Exit Processes Description: Kill Excel and IE Processes Business Object None Action Visual Business Objects Inputs Outputs Cor Utility - Environment Name SynapOne Bookcamp GDP by Country Internal Business Objects Calendars Credentials Data Gateways Environment Locking	? - □ × Group: Page ⊘ Data Type View All Items Binaries Collections Dates DateTimes Flags Images Numbers	Action Properties Name: Exit Processes Description: Kill Excel and IE Processes Business Object Utility - Environment Action Clear Clipboard Inputs Outputs Cor Font Smothing Enabled Get Clipboard Name Get Clipboard Get Screen Resolution Get Screen Resolution Get User Name Kill Process Kill Process Uniti Ended Set Clipboard Start Process Uniti Ended Set Clipboard	? — □ × i Group: □ Page ☑ Data Type ☑ View All Items
Credentials Data Gateways Encryption Environment Locking Work Queues	Flags Images Numbers Passwords Text Times TimeSpans	Read Process Working Set Run Process Until Ended Set Clipboard Start Process Read Stderr and Stdout Wait for Process Wait for Process Window Stage logging:	Flags Images Numbers Passwords Text Times TimeSpans
Stage logging: Errors only Unon't log parameters on this stage Warning threshold: System Default Number of minutes 5 (1) (0 to disable)	OK Cancel	Warning threshold: System Default Number of minutes 5 (0 to disable)	OK Cancel

DRAG THE "[PROCESS.PROCESS]"TEXT VALUE TO THE VALUE IN THE INPUTS AND SELECT "OK"

Action Proper	ties				?	-		\times
Name: E Description: H	xit Processes (ill Excel and IE Proce	sses		^				
Business Object Action Inputs Outputs I Name Process Name	Utility - Environmer Kill Process Conditions	Data Type Text	Value [Processes.Processes]		Group: Page View Al Collec - Collec - Pr - Dates - Dates - DateT - Flags - Numk - Passw - TimeS	✓ D ✓ D ✓ II Items es es inos imes is vers oresses pans	ata Type	esses
Stage logging: Warning threshold:	Errors or System I	ly	Don't log parameters on this s	(0 to disable)	OK		Can	cel

CREATE A LOOP SECTION BETWEEN THE ACTION STAGE



DOUBLE CLICK TO OPEN THE LOOP PROPERTIES

Loop Properties							?	_		×	
Name:	Kill Process										
Description:						^					
						\vee					
Collection	Processes					•					
Stage logging:	[Errors only	\sim								
Warning threshol	ld:	System Default	~	Number of minutes	5 🔹	(0 t	o disable)	0	К	Can	cel

LINK ALL STAGES



SECTION 4.4

Get input requests

CREATING A NEW BP STUDIO PROCESS

- 1. Create a new page called "Get Input Requests"
- 2. Save the excel file to a folder you can easily find, I have used the desktop
- 3. Create a data item and use it to store the excel file Path
- 4. Create another action stage to create an instance of excel and in the "output" tab create a handle data value
- 5. Create an action stage to open workbook and add the handle and excel file name data to the VALUE
- 6. Go to the output tab and store the data output as workbook name
- 7. Create another action tool to activate workbook and add the data by dragging and dropping
- 8. Create an action stage to get worksheet and save the output using the "store in" button
- 9. Navigate to the system tab and the work queue section and create new queue
- 10. Create a data tab the exact same name as the queue
- 11. Create an action stage to add data to the queue
- 12. Link all the stages

CREATE A NEW PAGE CALLED "GET INPUT REQUESTS"


SAVE THE EXCEL FILE TO A FOLDER YOU CAN EASILY FIND, I HAVE USED THE DESKTOP



CREATE A DATA ITEM AND USE IT TO STORE THE EXCEL FILE <u>PATH</u>

🕸 Data Prope	rties		?	_		×
Name:	Excel File Name					
Description:	^					
Data Type	Text		iext Text ite	ms are us	ed to sto	re
Initial Value	C:\Users\preet\OneDrive\Desktop\Synaptein Solutions Bootcamp\GDP Requests.xlsx		alphanu	meric dat	ta.	
Exposure	None	/	address etc.	es, telepl	hone num	ames, bers,
Current Value						
Visibility	Hide from other pages in the process					
Initialisation	Reset to Initial Value whenever this page runs					
			ОК		Can	cel

CREATE ANOTHER ACTION STAGE TO CREATE AN INSTANCE OF EXCEL AND IN THE "OUTPUT" TAB CREATE A HANDLE DATA VALUE

Action Prop	erties					? – 🗆 ×	Action Prope	rties					? –	
Name: Description:	MS Excel VBO::Create	Instance			<		Name: Description:	MS Excel VBO::Cr	eate Instance			< >		
Business Object Action Inputs Outputs Name Enable Events	MS Excel VBO Create Instance Conditions	Data Type Rag	Value			Group: ☐ Page ☐ Data Type ☑ View All Items	Business Object Action Inputs Outputs Name Dandle	MS Excel VBC Create Instar Conditions	D Ince	Store In			Group: Page I (View All Items Binaries Collections Date5 DateTimes Flags Images Numbers Andle Passwords Text Times TimeSpans	Data Type
Stage logging: Warning threshold	Errors onl System D	ly ~ Default ~	Don't log parameter Number of minutes	s on this stage	(0 to disable)	OK Cancel	Stage logging: Warning threshold:	Error Syst	rs only v	Don't log parameter	s on this stage	(0 to disable)	ОК	Cancel

CREATE AN ACTION STAGE TO OPEN WORKBOOK AND ADD THE HANDLE AND EXCEL FILE NAME DATA TO THE VALUE

Action Proper	ties						1	-		>
Name:	Dpen Workbook									
Description:					^					
					¥ .					
usiness Object	MS Excel VBO				~	Ð	Group:			
ction	Open Workboo	ok			~		Page		ata Type	
nputs Outputs	Conditions						View A	II Items		
Name		Data Type	Value				Binari	es		
handle		Number	[handle]	•				tions		
File name		Text	[Excel File Path]				Dates	īmes		
							Flags			
					$\langle \rangle$	\checkmark	Image	5		
							- Numb	pers		
							Passw	ords		
						\mathbf{h}	🖃 Text			
							Ex	cel File	Path	
							Times			
							TimeS	pans		
age logging:	Errors	only 💉	/ Don't log parameters	s on this stage						
/arning threehold:	System	m Default	Number of minutes	5 🔺	(0 to disable)		ОК		Cano	el

GO TO THE OUTPUT TAB AND STORE THE DATA OUTPUT AS WORKBOOK NAME

Action Properties	5				?	-		Х
Name: Ope Description:	n Workbook			*				
Business Object Action Inputs Outputs Cor Name Workbook Name	MS Excel VBO Open Workbook nditions Data Tyr Text	pe Store In			Group: Page View Al Group: Binari Collec Dates Dates Dates Flags Numt Passw Text Pr W U	Dialognee Dialo	ata Type Path Processes & Name	
Stage logging:	Errors only System Default	Don't log parameter Number of minutes	ers on this stage	(0 to disphip)	0K		Cano	

CREATE ANOTHER ACTION TOOL TO ACTIVATE WORKBOOK AND ADD THE DATA BY DRAGGING AND DROPPING

Name: A	Activate Workbook								
Description:									
					< -				
usiness Object	MS Excel VBO				~ ()	Group:			
ction	Activate Workboo	k			~	Page	D	ata Type	
nputs Outputs	Conditions					View	All Items		
Vame		Data Type	Value			Exce	l File Path		_
handle		Number	[handle]			hand	dle		
Workbook Name			[Workbook Name]	•		Wor	kbook Na	me	

CREATE AN ACTION STAGE TO GET WORKSHEET AND SAVE THE OUTPUT USING THE "STORE IN" BUTTON

Action Prop	erties	? – 🗆 ×	Action Properties	? – 🗆 ×
Name: Description:	Get worksheet as collection		Name: Get worksheet as collection Description:	
Business Object Action Inputs Outputs Name	MS Excel VBO Get Worksheet As Collection (Fast) Conditions Data Type Value	Group: Page Data Type View All Items Data Excel File Path handle Workbook Name	Business Object MS Excel VBO Action Get Worksheet As Collection (Fast) Inputs Outputs Conditions Name Data Type Store In Deta Collection	iroup: Page Data Type View All Items Data Excel File Path handle Input Collection Workbook Name
Stage logging: Warning threshold	Errors only □ Don't log parameters on this stage f: System Default Number of minutes 5 ↓ (0 to disable)	OK Cancel	Stage logging: Errors only Don't log parameters on this stage Warning threshold: System Default Number of minutes 5 <a>(0 to disable)	OK Cancel

NAVIGATE TO THE SYSTEM TAB AND THE Work queue section and create new Queue

Blue Prise	m - Robotic Process Automation Softv	ware - v6.9.0				Queues	Queue Detail			
File	Home Studio	Control Analytics	Releases	System	My Profile	Y >	Name	GDP Queue		
	5		Workflow - W	ork Queues				(maximum of 255 chara	aracters)	
	🖃 🗿 Processes		Queues	Queue Def	tail	🗘 🗘 Queue 1	Key Name	RID		
	Exposure		T	× Name				(taken from a process	is studio collect in field, max 255 chars)	
	History		Queues		(maximu	-	Maximum	1 🗘 Status	is Running	Pause Queue
- Contraction of the local division of the l	Exception Types			Key Nar	me		Attempts	(number of times each	ch case can be selected)	
	in the second se			Maurice	(taken tro		Encrypted	using key:	Default Encryption Scheme	•
<u> </u>	Exposure Management			Attemp	ots (number					
	History			Env	using key		Active Oueue			
	External SOAP Web Services			Enci	aypted					
	B Web API Services						Assigned Process			•
	Connection Settings				Active Queue		Assigned Resource	Group		•
	Environment Variables			Assign	aned Process					
A	Skills Management			Assig	ned Resource Group					
N.	🕀 🖵 Resources									
	Pools Management									
	😑 🔓 Data Gateways									
	Settings									
	Workflow									
	Environment Locks									
	Users User Roles									
	Sign-on Settings									
	Encryption Schemes									
	😑 🔲 Audit									
	Object Logs									
	Audit Logs									
	Statistics Alerts									
	Design Control									
	E ger System									
	License									
	Archiving Scheduler									
	Calendar									
	Fonts Reporting									
	Work Queue Snapshol	ts								
		_		_						
		F								
			New	Delete () Find	d References		Find References			Apply
_						New Delete				

CREATE A DATA TAB THE **EXACT SAME NAME** AS THE QUEUE

🚯 Data Proper	ties	?	_		×
Name: Description:	GDP Queue				
Data Type Initial Value Exposure Current Value Visibility Initialisation	Text GDP Queue None	Text ite alphanu This inf address etc.	ms are us umeric dat formation ses, telept	ed to stor ta. may be na hone num	re ames, bers,
		OK	(Can	cel

CREATE AN ACTION STAGE TO ADD DATA TO THE QUEUE

Name: A Description:	dd to Queue				~				
siness Object	Work Queues				~ ()	Group:			
tion	Add To Queue				~	Page	🗹 Da	ata Type	
nputs Outputs (Conditions					View A	II Items		
lame		Data Type	Value			: Binari	es		_
Queue Name		Text	[GDP Queue]			E Colle	tions		
Data		Collection	[Input Collection]			In	put Colle	ection	
Defer Until		DateTime		$\overline{}$		Dates			
Priority		Number				DateT	ïmes		
Tags		Text	"ItemAcquired"			- Flags			
Status		Text	"Received"			Image	ers		
Batch Size		Number				Passv	vords		
						- Text			
						E	cel File P	Path	
						G	DP Queu	e Processes	
						W	orkbook	Name	
						Times			
						Times	ipans		
tage logging:	Errors of	only	Don't log parameters	on this stage					
/noning thread and	Suntain	D-fh		E A	(D) (C) (L)	01/		C	

LINK ALL THE STAGES



SECTION 4.5

Get GDP Table

GET GDP TABLE

- 1. Create a new page with the name "Get GDP Table"
- 2. Create a new action stage to
 - 1. Launch the Country by GDP business object
 - 2. Click on GDP Hyperlink
 - 3. Search for country
 - 4. Click on desired country
 - 5. Get the GDP table and store output in a collection
- 3. Link all the stages

LAUNCH GDP BY COUNTRY BUSINESS OBJECT

Action Propertie	es				?	- 🗆	×
Name: La	unch WorldOMeters Webpage			•			
Business Object Action Inputs Outputs Co Name	GDP by Country Launch WorldOMeters Webpa onditions Data Type	ge Value			Group: Page ✓ View Al Binario Collect Dates Dates Dates Hage Numb Passw Solution Passw Solution TimeS		ре
Stage logging: Warning threshold:	Errors only System Default	 Don't log parameter Number of minutes 	s on this stage	(0 to disable)	ОК	C	ancel

CLICK ON GDP HYPERLINK

Action Propertie	'S		?	-		×
Name: Clic Description:	k on GDP Hyperlink					
Business Object Action Inputs Outputs Co Name	GDP by Country Click on GDP Hyperlink Inditions Data Type Value	~ 1 ~	Group: ☐ Page ✓ View A Binar ⊕. Colle	⊡ D All Items ies ctions	ata Type	
			Date: Flags Imag Num Passu Text Time: Time:	s Fimes es bers words s Spans		
Stage logging: Warning threshold:	Errors only Don't log parameters on this stage System Default VNumber of minutes 5 (0 to d	isable)	0		Can	cel

SEARCH FOR COUNTRY

Action Propert	ties					?	_		×
Name: S	earch for Country				*				
Business Object Action Inputs Outputs (GDP by Country Search for Count Conditions	ïry			~ (i	Group:	⊡ [All Items	Data Type	
Name Country Name		Data Type Text	Value			Bina Coll Coll	aries ections 25 27 Times 28 Times 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20		
Stage logging: Narning threshold:	Errors or System I	ıly ∨ Default ∨	Don't log parameter	s on this stage	(0 to disable)	0	к	Cano	el

CLICK ON DESIRED COUNTRY

Action Properties						?	—		\times
Name: <mark>Click on I</mark> Description:	Desired Country			~					
Action Clic Inputs Outputs Condition	by Country k on Desired Country ns Data Type	Value		× ×	0	Group: Page View Al Binarie Collect	Di I Items es tions	ata Type	
						… Dates … DateTi … Flags … Image … Numb … Passw … Text … TimeS … TimeS	mes s ers ords pans		
tao logio:	Error ook		a an this status						
Narning threshold:	System Default	 Number of minutes 	5 -	(0 to disable)		OK		Cano	el

GET THE GDP TABLE AND STORE OUTPUT IN A COLLECTION

Action Properties	? – 🗆 ×	Action Properties	? – 🗆 ×
Name: Get GDP Table Description:		Name: Get GDP Table	
Business Object GDP by Country V Action Get GDP Table V Inputs Outputs Conditions Name Data Type Value	Group: Page Data Type View All Items Binaries Collections Dates DateTimes Flags Images Numbers Passwords Text TimeSpans	Business Object GDP by Country Image: Constraint of the second seco	Group: Page ✓ Data Type ✓ View All Items ✓ Ollections → Dates → DateTimes → Flags → Images ↔ Numbers → Passwords ↔ Text → TimeSpans
Stage logging: Errors only Don't log parameters on this stage Warning threshold: System Default Number of minutes 5 ‡ (0 to disable)	OK Cancel	Stage logging: Errors only Don't log parameters on this stage Warning threshold: System Default Number of minutes 5 (0 to disable)	OK Cancel

LINK ALL THE STAGES



SECTION 4.6

Write Output Data

GET GDP TABLE

- 1. Create a new page with the name "Write Output Data"
- 2. Create a new Data Item to link to the path of the Output Excel File
- 3. Create an action stage to
 - 1. Open an instance of excel and store the handle in a new data item
 - 2. Open an excel workbook and save the output
 - 3. Show the excel workbook
 - 4. Create worksheet
 - 5. Write collection
 - 6. Save current workbook
 - 7. Close instance

CREATE A NEW DATA ITEM TO LINK TO THE PATH OF THE OUTPUT EXCEL FILE

🚯 Data Prope	rties		?	_		×
Name:	Output Excel File					
Description:		^				
		~				
			Text			
Data Type	Text	\sim	Text ite	ms are us	sed to sto	re
Initial Value	C:\Users\preet\OneDrive\Desktop\Synaptein Solutions Bootcamp\OutputGDP.xlsx		alphanu This ist	imeric da	ta.	
Exposure	None	\sim	address etc.	ses, telep	hone num	ames, bers,
Current Value						
Visibility	Hide from other pages in the process					
Initialisation	Reset to Initial Value whenever this page runs					
			OK	(Can	cel

CREATE AN ACTION STAGE TO OPEN ANOTHER INSTANCE OF EXCEL AND STORE THE HANDLE IN A NEW DATA ITEM

Action Prop	erties		? – 🗆 🗙	Action Prope	erties			? – 🗆 🗙
Name: Description:	MS Excel VBO::Create Instance	*		Name: Description:	MS Excel VBO::Create Instance		< >	
Business Object	MS Excel VBO	~ ()	Group:	Business Object	MS Excel VBO		~ ()	Group:
Action	Create Instance	~	🗌 Page 🗹 Data Type	Action	Create Instance		~	🗌 Page 🛛 🗹 Data Type
Inputs Outputs	Conditions		✓ View All Items	Inputs Outputs	Conditions			View All Items
Name	Data Type Value		Binaries	Name	Data Type	Store In		Binaries
Enable Events	Flag		 Collections Dates DateTimes Flags Images Numbers Passwords Text Times TimeSpans 	handle	Number	handle handle		 Collections Dates DateTimes Flags Images Numbers - handle - handle - Passwords - Text - Times - TimeSpans
Stage logging:	Errors only 🗸 🗌 Don't	log parameters on this stage		Stage logging:	Errors only	✓ □ Don't log parameters o	n this stage	
Warning threshold	System Default V Number of	of minutes 5 🔹 (0 to disable)	OK Cancel	Warning threshold:	System Default	 Number of minutes 	5 🔹 (0 to disable)	OK Cancel

CREATE AN ACTION STAGE TO OPEN AN EXCEL WORKBOOK AND SAVE THE OUTPUT

Action Prop	erties					? – 🗆 ×		Action Prope	erties				? – 🗆 ×
Name: Description:	MS Excel VBO::Open V	Vorkbook		< >				Name: Description:	MS Excel VBO::Open W	/orkbook		~	
Business Object	MS Excel VBO				~ 🚺	Group:		Business Object	MS Excel VBO			~ 🚺	Group:
Action	Open Workbook				\sim	🗌 Page 🛛 🗹 Data Type		Action	Open Workbook			~	🗌 Page 🛛 🗹 Data Type
Inputs Outputs	Conditions					View All Items		Inputs Outputs	Conditions				☑ View All Items
Name		Data Type	Value			Processes	^	Name		Data Type	Store In		Binaries
handle		Number	[handle]			Dates		Workbook Name		Text	🧭 Workbook Name		Collections
File name			[Output Excel File]			- DateTimes							Dates
						Images Numbers handle handle handle Passwords Text GDP Queue Item ID Output Excel File Processes.Processes Workbook Name Times S							Flags Images Numbers Passwords Text Excel File Path GDP Queue Item ID Output Excel File Processes. Processes Workbook Name Times TimeSpans
Stage logging:	Errors on	y ~	Don't log parameters	on this stage			-	Stage logging:	Errors only	(N	Don't log parameters	on this stage	
Warning threshold	System D	lefault v	Number of minutes	5 🜲 (0 to	disable)	OK Cancel		Warning threshold	System De	efault N	 Number of minutes 	5 🚖 (0 to disable)	OK Cancel

CREATE AN ACTION STAGE TO SHOW THE EXCEL WORKBOOK

Action Proper	ties							7	-		2
Name: Description:	MS Excel VBC	D::Show				< >					
Business Object action Inputs Outputs	MS Excel Show Conditions	VBO				~] ()	Group:	⊡ C I Items	Data Type	
handle		Number	[hand	le]				Onland Collect Dates Dates	imes s ers indle ords		
tage logging: /arning threshold:		Errors only System Default	✓ □ Do	on't log parameter er of minutes	s on this stage	(0 to disable)		ОК		Cano	el

CREATE AN ACTION STAGE TO CREATE WORKSHEET

Name: Description:	MS Excel VBO::Create	Worksheet						
Description:								
				^				
				\sim				
usiness Object	MS Excel VBO				~ 🚹	Group:		
tion	Create Workshee	et			\sim	🗹 Page	🗹 Data	Туре
nputs Outputs	Conditions					View Al	l Items	
Name		Data Type	Value			🕂 - Get GI	P Table	
handle		Number	[handle]			🕀 Get Inj	put Reque	st
Workbook Name		Text	[Workbook Name]			🗄 Initiali	ze	_
Norksheet Name i		Text	[ItemData.Country]			±. write	Jutput Da	a

CREATE AN ACTION STAGE TO WRITE COLLECTION

Name: Wri Description:	e Collection			<u>_</u>				
Business Object Action Inputs Outputs Co Name handle Workbook Name Worksheet Name Collection Cell Reference Enclude Column Name	MS Excel VBO	n Data Type Number Text Collection Text Rag	Value [handle] [V/orkbook Name] [ItemData.Countries] [Desired Country GDP Table] "A1" True		Group: Page View A Group A Group A Group A Group A Comparison Group A Comparison Group A Group A Comparison Group A Compa	DP Table esired Co em ID uput Requ DP Queue Output E andle utput Exc /orkbook	ita Type untry GDF jest e Sata :el File Name	PTa
					٢			

CREATE AN ACTION STAGE TO SAVE CURRENT WORKBOOK

Action Properties			? – 🗆 X
Name: <mark>Save Cum</mark> Description:	ent Workbook	< >	
Business Object MS E Action Save	xcel VBO Current Workbook s Data Type Value		Group: Page Data Type View All Items Get GDP Table Get Input Request Write Output Data handle Output Excel File Workbook Name
Stage logging:	Errors only	(0 to disable)	OK Cancel

CREATE AN ACTION STAGE TO CLOSE INSTANCE

Name: Name:	MS Excel VBO::Close Ir	nstance						
Description:				~				
usiness Object	MS Excel VBO			~ ()	Group:			
ction	Close Instance			~	Page	Da	ta Type	
nputs Outputs (Conditions				View A	II Items		
Vame		Data Type	Value		🛨 · Get G	DP Table		
nandle		Number			🕀 Get In	put Requ	iest	
ave Changes					e write	output b andle	ata	
					W	orkbook	Name	

SECTION 4.7



NOTIFY VIA EMAIL

- 1. Create a new page with the name "Notify"
- 2. Create an action stage to open another instance of outlook to send email
- 3. Link the stages

CREATE AN ACTION STAGE TO OPEN ANOTHER INSTANCE OF OUTLOOK TO SEND EMAIL

Description: usiness Object MS Outlook Email VBO ction Send Email inputs Outputs Conditions Name Data Type To Text pretthi k@synapone.com CC Text BCC Text BCC Text BCC Text BCC Text BP GDP Desired Country Message Text Hello, BP has saved your requested files attached Attachments Text IsHTML Flag Sensitivity Number Importance Number Number Text Importance Number Itage logging: Errors only Dont log parameters on this stage	Name: S	Send Email			
usiness Object MS Outlook Email VBO v for Send Email ction Send Email Send Email VBO Value To Outputs Conditions Name Data Type Value To Text preethi.k@synapone.com CC Text BCC Text BCC Text BF GDP Desired Country Message Text Hello, BP has saved your requested files attached Attachments Text IOutput Excel File] BHTML Flag Sensitivity Number Importance Number Text Excernt Display Name Text Don't log parameters on this stage	Description:			<u>^</u>	
tion Send Email ✓ puts Outputs Conditions ✓ Name Data Type Value To Text preethi.k@synapone.com CC Text BCC Text BP GDP Desired Country Message Text Hello. BP has saved your requested files attached Attachments Text [Output Excel File] Bernsitivity Number Importance Number Account Display Name Text Imes Same Sensitivity Name Sensitivity Number Importance Number Account Display Name Text Bage logging: Erors only ✓ Don't log parameters on this stage	usiness Object	MS Outlook Email	VBO	~ [Group:
uputs Outputs Conditions Name Data Type Value To Text preethi.k@synapone.com CC Text preethi.k@synapone.com BCC Text Importance Subject Text BP GDP Desired Country Message Text Hello, BP has saved your requested files attached Attachments Text IsHTML Flag Sensitivity Number Importance Number Accourt Display Name Text Errors only Dont log parameters on this stage	tion	Send Email		~	🗌 Page 🛛 🗹 Data Type
Name Data Type Value To Text preethi.k@synapone.com CC Text Collections BCC Text Date Type Subject Text BP GDP Desired Country Message Text Hello, BP has saved your requested files attached Attachments Text [Output Excel File] IsHTML Flag Times Sensitivity Number Times Importance Number TimeSpans Accourt Display Name Text Ont log parameters on this stage	nputs Outputs	Conditions			View All Items
To Text preethi.k@synapone.com CC Text Collections BCC Text Dates Subject Text BP GDP Desired Country Message Text Hello, BP has saved your requested files attached Attachments Text [Output Excel File] IsHTML Flag Times Sensitivity Number Times Importance Number Times Accourt Display Name Text Ont log parameters on this stage	Name		Data Type	Value	Binaries
CC Text Image: Subject Text BP GDP Desired Country Message Text BP GDP Desired Country Image: Flags Attachments Text Hello, BP has saved your requested files attached Numbers Attachments Text [Output Excel File] Image: Text Numbers Sensitivity Number Image: Text Times Spans Image: Text Account Display Name Text Ont log parameters on this stage Image: Text Image: Text	То		Text	preethi.k@synapone.com	
BCC Text BP GDP Desired Country Subject Text BP GDP Desired Country Message Text Hello, BP has saved your requested files attached Attachments Text [Output Excel File] IsHTML Flag Text Sensitivity Number Times Importance Number Times Account Display Name Text Ont log parameters on this stage	сс		Text		Dates
Subject Text BP GDP Desired Country Message Text Hello, BP has saved your requested files attached Attachments Text [Output Excel File] sHTML Flag Text Sensitivity Number Times importance Number Times Vecourt Display Name Text Importance Sensitivity Text Importance Number Importance Importance Sensitivity Don't log parameters on this stage Importance	BCC		Text		- DateTimes Flags
Message Text Hello, BP has saved your requested files attached Attachments Text [Output Excel File] sHTML Flag Times Sensitivity Number Times importance Number Times Vaccourt Display Name Text Text age logging: Erors only Don't log parameters on this stage	Subject		Text	BP GDP Desired Country	Images
Attachments Text Gutput Excel File] sHTML Flag Sensitivity Number Importance Number Text TimeSpans	Message		Text	Hello, BP has saved your requested files attached	Numbers
IsHTML Flag TimeS Sensitivity Number Importance Number Text ImmeSpans	Attachments		Text	[Output Excel File]	Passwords
Sensitivity Number Importance Number Itex Importance Tex Importance Importanc	sHTML		Flag		Times
mportance Number Iccount Display Name Text age logging: Errors only Don't log parameters on this stage	Sensitivity		Number		TimeSpans
Account Display Name Text	mportance		Number		-
age logging: Errors only Cont log parameters on this stage	Account Display Na	ame .	Text		
age logging: Errors only Ont log parameters on this stage	in the second se				
age logging: Errors only V Don't log parameters on this stage					
age logging: Errors only V Don't log parameters on this stage					
age logging: Errors only 🗸 🗌 Don't log parameters on this stage					
	age logging:	Errors or	nly ~	Don't log parameters on this stage	

LINK THE STAGES



SECTION 4.8

Exception Handling

SECTION 4.8.1

Getting Exception Data

GETTING EXCEPTION DATA

- 1. Create a new "Get exception data" Page
- 2. Create an action in the work queue to get exception items
- 3. Create two data items representing time and date
- 4. Create a loop for the exception items
- 5. Create a collection called final data
- 6. Use an action to add a row to a collection
- 7. Use an action stage get item data
- 8. Add a multi calc stage
- 9. Link all the stages at the end
CREATE AN ACTION IN THE WORK QUEUE TO GET EXCEPTION ITEMS

Action Properties		? – 🗆 🗙	4 Action Properties	? – 🗆 🗙
Name: Work Queues::Get Exception Description:	items		Name: Work Queues::Get Exception Items Description:	
Business Object Work Queues Action Get Exception Items Inputs Outputs Conditions Name Data Queue Name Text Start Date Date End Date Date Key Filter Text Tag Filter Text Maximum Rows Numl Resource Name Text	Value [GDP Queue] [ime [Start Date] [ime [End Date] [ime] [i	Group: Page Data Type View All Items - Collections - Dates - DateTimes - End Date - Start Date - Flags - Images - Numbers - Passwords - Times - TimeSpans	Business Object Work Queues Action Get Exception Items Inputs Outputs Conditions Name Data Type Store In Exception Items Collection Exception Items	Sroup: Page Data Type View All Items Binaries Collections Desired Country GDP Table Exception Items Item Data DateS DateTimes Flags Numbers Passwords Text Times TimeSpans
Stage logging: Errors only Warning threshold: System Default	✓ Don't log parameters on this stage ✓ Number of minutes 5 ♀ (0 to disable)	OK Cancel	Stage logging: Errors only Don't log parameters on this stage Warning threshold: System Default Number of minutes 5 <a>(0 to disable)	OK Cancel

CREATE TWO DATA ITEMS REPRESENTING TIME AND DATE

Data Proper	ties	? –		
Name: Description:	Start Date			
Data Type Initial Value Exposure	Date Time 1/1/2021 12:00:00 AM Image: Comparison of the second	DateTime DateTime items a date and time dat range from 1/1/00 to 12/21/0000 111 to 12/21/0000 111	are used to store ta. Values may 001 12:00:00 AM 50:50 PM rties	? – 🗆 X
Current Value Visibility Initialisation	Hide from other pages in the process Reset to Initial Value whenever this page runs	Name: Description:	End Date	
		Data Type Initial Value Exposure Current Value Visibility	DateTime ✓ 12/31/2021 12:00:00 AM None ✓ Hide from other pages in the process	DateTime DateTime items are used to store date and time data. Values may range from 1/1/0001 12:00:00 AM to 12/31/9999 11:59:59 PM. They are similar to Date items, but Date items cannot store time data.
		Initialisation	☑ Reset to Initial Value whenever this page runs	OK Cancel

CREATE A LOOP FOR THE EXCEPTION ITEMS

🚯 Loop Prope	rties		?	_		×
Name:	Loop Start1					
Description:		^				
		¥				
Collection	Exception Items	•				
Stage logging:	Errors only \checkmark					
Warning threshol	d: System Default ∨ Number of minutes 5 🚖	(0 to disable)	OK		Can	cel

CREATE A COLLECTION CALLED FINAL DATA

	Final Data				
Description:			< >		
Fields Initial	Values Curr	nt Values			_
ame	Туре	Description		Fields	Fields:
ID	Unknown				Import
ountry Name	Unknown				
xception	Unknown				
					Add
					Add
					Add Remove Clear

USE AN ACTION TO ADD A ROW TO A COLLECTION

Action Propertie	es					?	— C]	×
Name: Ad Description:	ld Row				< <				
Business Object Action Inputs Outputs Co Name	Collections Add Row anditions	Data Type	Value		~ () ~	Group:	☑ Data T II Items es	ype	
Collection Name	Errors on	Text	"Final þata"	s on this stage		Orlect Orlect	tions imes es pers rords pans		
Warning threshold:	System D)efault ~	Number of minutes	5 ÷	(0 to disable)	OK		Cancel	

USE AN ACTION STAGE GET ITEM DATA

Action Prop	erties					? – 🗆 🗙	Action Proper	ties				? – 🗆 🗙
Name: Description:	Get Item Data			< >			Name: Description:	Get Item Data			< ->	
Business Object	Work Queues				~ 1	Group:	Business Object	Work Queues			~ ()	Group:
Action	Get Item Data				\sim	🗌 Page 🛛 🗹 Data Type	Action	Get Item Data			~	🗌 Page 🛛 🗹 Data Type
Inputs Outputs	Conditions					View All Items	Inputs Outputs	Conditions				View All Items
Name		Data Type	Value			····· Binaries	Name		Data Type	Store In		····· Binaries
Item ID		Text	[Exception Items.Ite	m ID]		Collections	Кеу		Text			
						··· Dates ⊪· DateTimes	Priority		Number			···· Data ···· Desired Country GDP Table
						Flags	Status		Text			Exception Items
						Images	Attempts		Number			
						Passwords	Worktime		TimeSpan			Dates
							Attempt Worktime	1	TimeSpan			
						Exception Items.Item ID	Loaded DateTime	,	DateTime			Flags
						GDP Queue	Deferred DateTim	ie	DateTime			Images
						Item ID	Completed DateT	ime	DateTime			Numbers
							Exception DateTi	me	DateTime			Passwords
						TimeSpans	Exception Reason		Text	Exception Reason		Times
							Tags	-	Text	Taos		TimeSpans
							Data		Collection	Data		< >
Stage logging:	Errors on	ly ~	Don't log parameters	on this stage			Stage logging:	Errors o	nly ~	Don't log parameters on this s	tage	
Warning threshold	System [Default 🗸 🗸	Number of minutes	5 🜲 (0 to disa	able)	OK Cancel	Warning threshold:	System	Default ~	Number of minutes 5		OK Cancel

ADD A MULTICALC STAGE

escription:	Soc Data			
			Ĵ	
Expression [ExceptionDat [Data] [Exception F	ta.RID] Reason]	Store In Final Data.RID Final Data.Country Name Final Data.Exception		Group: Page Data Type View All Items
				Desired Country GDP Table End Date Exception Items Exception Reason Final Data Final Data.Country Na Final Data.Exception GDP Queue Item Data Item ID Output Excel File Start Date Tags
Move Up	Move Down		Add Remove	e

LINK ALL THE STAGES AT THE END



SECTION 4.8.2

Writing Exception Data

GETTING EXCEPTION DATA

- 1. Create a new "Write exception data" Page
- 2. Create an action to create an excel instance

CREATE AN ACTION TO CREATE AN EXCEL INSTANCE

Action Proper	ties					?	-)
Name: 0	Create Excel Instance				~				
Business Object Action	MS Excel VBO Create Instance Conditions				~ () ~	Group:	D D	ata Type	
Name handle		Uata Type Number	Store In Andle			Desire GDP C handl Item I Item II Outpu	ed Count Queue e Data D ut Excel F	ile	ble
tage logging:	Errors on System 1	ly ∽ Default ∽	Don't log parameter	s on this stage	(0 to disable)	Ок		Canc	

CREATE AN ACTION TO CREATE A WORKBOOK

Action Prop	erties					? – 🗆 ×	}	Action Proper	ties					?	- 🗆 X
Name: Description:	Create Workbook			^				Name: 0 Description:	Create Workbook				~		
Business Object Action Inputs Outputs Name handle	MS Excel VBO Create Workbook Conditions	Data Type Number	Value [handle]			Group: Page Data Type View All Items Desired Country GDP Table GDP Queue handle	-	Business Object Action Inputs Outputs Name Workbook Name	MS Excel VBO Create Workbox Conditions	Data Type Text	Store In			Group: Page View All It GDP Que handle	Data Type tems Country GDP Table sue
						Item Data Item ID Output Excel File Workbook Name								Item Data	a Excel File ok Name
Stage logging: Warning threshold	Errors onl System D	y ∨ efault ∨	Don't log parameters	on this stage	ble)	OK Cancel		Stage logging: Warning threshold:	Errors o System	Default	Don't log parameters Number of minutes	on this stage	0 to disable)	ОК	Cancel

CREATE AN ACTION TO CREATE A WORKSHEET

Action Properties				? – 🗆 X
Name: Create	e Worksheet		^	
Business Object M Action C Inputs Outputs Cond Name handle Workbook Name	IS Excel VBO Create Worksheet Ittions Data Type Number Text Text	Value [handle] [Workbook Name] "Exception Sheet"		Group: Page Data Type View All Items Desired Country GDP Table GDP Queue handle Item Data Item ID Output Excel File Workbook Name
Stage logging: Warning threshold:	Errors only \checkmark System Default \checkmark	Don't log parameters on this stage Number of minutes 5	(0 to disable)	OK Cancel

CREATE AN ACTION TO WRITE EXCEPTION DATA

Name: M	IS Excel VBO::Write	e Collection								
Description:					0					
usiness Object	MS Excel VBO					A	Group			
rtion	Write Collection	n			-	•			ta Tuna	
					· ·				ita iype	
ipuis Outputs (Londitions							ii items		_
Name		Data Type	Value				Desire	d Counti	ry GDP Ta	ble
handle		Number	[handle]				- GDP C	lueue e		
Workbook Name		Text	[Workbook Name]				- Item D	-)ata		
Collection		Collection	[Data]				···· Item II	D		
Worksheet Name		Text	"Exception Sheet"				Outpu	ut Excel F	ile	
Cell Reference		Text	"A1"				Workl	book Nar	ne	
Include Column Nar	nes	Flag	True							
tage logging:	Errors	only	Don't log parameters	on this stage						

USE A NEW ACTION TO SAVE WORKBOOK AS

Action Properties				? – 🗆	Action Properties	? – 🗆 🗙
Name: Save V Description:	Vorkbook		~		Name: Save Workbook Description:	
Business Object MS Action Sz Inputs Outputs Conditi Name handle Workbook Name Filename	S Excel VBO ave Workbook As ions Data Type Number Text Text	Value [handle] [Workbook Name] [Exception File Path	v 1]&"\"Exception.xlsx"	Group: Page Data Type View All Items Desired Country GDP Table Exception File Path GDP Queue handle Item Data Item ID New Workbook Name Output Excel File Workbook Name	Business Object MS Excel VBO	Group: Page Data Type View All Items Desired Country GDP Table Exception File Path GDP Queue handle Item Data Item ID New Workbook Name Output Excel File Workbook Name
Stage logging: Warning threshold:	Errors only System Default	Don't log parameters Number of minutes	on this stage 5 (0 to disable)	OK Cancel	Stage logging: Errors only Don't log parameters on this stage Warning threshold: System Default Number of minutes 5 1 (0 to disable)	OK Cancel

USE A NEW ACTION TO CLOSE Workbook

	1.						
Name: Lose Workboo	к		~ ~				
usiness Object MS Excel V	VBO			~ ()	Group:		T
nputs Outputs Conditions	TRDOOK				View All	L Data	туре
Name handle	Data Type Number	Value [handle]			Desired Excepti GDP Q	d Country (ion File Pat ueue	GDP Tabl :h
Save Data	Flag	True			handle Item Di Item ID New W	e ata) /orkbook N	lame
					Outpu	t Excel File ook Name	
age logging:			44.5 - 44		L		

USE A NEW ACTION TO CLOSE INSTANCE

Action Properties					?	_		×
Name: MS Description:	Excel VBO::Close Instance			^				
usiness Object [ction [Inputs Outputs Con Name handle Save Changes	MS Excel VBO Close Instance ditions Data T Numbe Rag	ype Value er [handle] True			Group: Page View A Desire Excep GDP C handl	D II Items d Count tion File Queue e	ata Type try GDP Ta Path	able
					Item I Item II New \ Outpu	vata D Workboo ut Excel I book Na	ok Name File me	
tage logging:	Errors only	✓ □ Don't log paramete	ers on this stage	(0, F 11)	01			

USE THE CALCULATION TOOL TO SET FILE PATH

Description: Data Items Expression [Exception File Path]&"\"Exception.xlsx" Data Items Group: Page Data Type View All Items - Exception File Path Exception File Path - Exception File Path	
xpression Data Items [Exception File Path]&"\"Exception.xlsx" Group: □ Page Data Type □ View All Items □ Desired Country GDP Table - Exception File Path - Exception Path	
Exception File Path]&"\"Exception.xlsx" Group: Page Data Type View All Items Desired Country GDP Table Exception File Path Exception File Path Exception Path Exception Path	
Exception Path	
Validate Expression Store Result In C Exception Path GDP Queue	
Data Data Use this area to compose a function statement and paste Torrent Date Date Date Select a function from the list on the left. The Workbook Name Select a function from the list on the left. The Workbook Name	
File Complete the details and the require parameters will be shown here. Complete the details either by entering values or by dragging in data items from the list on the right. When the details are complete, send the ✓	

LINK ALL THE STAGES TOGETHER



SECTION 4.9

Configuring the Main Page

STEPS IN CREATING THE MAIN PAGE

- 1. Use the Page tool to reference
 - 1. The Initialize Page
 - 2. Get Input Requests
 - 3. Get GDP Tables
 - 4. Write Output Data
 - 5. Get Exception Data
 - 6. Notify
- 2. Use the Action Tool to
 - 1. Get Next Item
 - 2. Mark Complete
- 3. Use the Decision Tool to check for items in the queue

USE THE PAGE TOOL TO REFERENCE THE "INITIALIZE" PAGE

Page Reference Pro	operties	? — 🗆 🤉
Name: Initiali: Description:	xe	
age: Initiali	26 ~	Group:
Name	Data Type Value	✓ View All Items Get Exception Data Get Get Input Request Initialize Main Page Data Queue Item ID Write Exception Data Write Output Data
age logging: arning threshold:	Errors only System Default Number of minutes 5 (0 to disa	able) OK Cancel

USE THE PAGE TOOL TO REFERENCE THE "GET INPUT REQUEST" PAGE

Page Reference Propert	es		?	- 🗆	×
Name: <u>Get Input R</u> Description:	equest	<			
Page: Get Input F Inputs Outputs Conditions Name	equest	~	Group: Page View Al G-Get E G-Get G G-Get In G-Get	Data Type	
Stage logging: Warning threshold:	Errors only System Default Number of minutes	s 5 🔹 (0 to disable)	ОК	Can	cel

GET NEXT ITEM IN QUEUE AND STORE OUTPUT

Action Properties					? –		🚺 🚯 Action Prop	erties					? – 🗆 ×
Name: Get N Description:	Vext Item in Queue						s Name: Description:	Get Next Item in Que	eue			~	
Business Object	Work Queues Get Next Item ditions Data Type Text Text Text Text	Value [GDP Queue]			Group: Page View All Items Collections Collections Collections Item Date Dates DateTimes Flags Images Numbers Passwords TimeSpans	Data Type	Business Object Action Inputs Outputs Name Item ID Data Status Attempts	Work Queues Get Next Item Conditions	Data Type Text Collection Text Number	Store In Item ID			Group: Page Data Type View All Items Group: Collections Collections I input Collection I tem Data Processes Dates DateTimes Flags Images Numbers Passwords Text Times TimeSpans
Stage logging: Warning threshold:	Enabled System Default	 Don't log parameter Number of minutes 	s on this stage	(0 to disable)	OK	Cancel	Stage logging: Warning threshol	d: System	ed v n Default v	Don't log parameter Number of minutes	s on this stage) to disable)	OK Cancel

USE THE DECISION TOOL TO CHECK FOR ITEMS IN THE QUEUE

Decision Properties		? - □ >
Name: Check for items Description:		Ĵ
Expression [Queue Item ID]↔""		Data Items Group: ✓ Page □ Data Type ✓ View All Items Get Exception Data Get GDP Table Get Input Request
Validate Evaluate Expression	Function Detail Expression Function Builder Use this area to compose a function statement and paste it into the expression. Select a function from the list on the left. The function details and the required parameters will be shown here. Complete the details either by entering values or by dragging in data items from the list on the right. When the details are complete, send the	Hnitialize Main Page Data Queue Item ID Write Exception Data Write Output Data
Stage logging: Enabled	ult ✓ Number of minutes 5 🖨 (0 to disal	ble) OK Cancel

USE THE PAGE TOOL TO REFERENCE THE "GET GDP TABLE" PAGE

Name:	Get GDP Table	
Description:	✓	
Page:	Get GDP Table V	Group:
Inputs Outputs	Conditions	🗹 Page 📃 Data
Name	Data Type Value	View All Items
		Get Exception Dat Get GDP Table Get Input Request Get Input Request

USE THE PAGE TOOL TO REFERENCE THE "WRITE OUTPUT DATA" PAGE

Page Reference Propert	ies			?	- 0	
Name: Write Outpu Description:	ıt Data		\sim			
'age: Write Output	ut Data		\sim	Group:	_	
Name	Data Type	Value		View Al	I Items exception Data DP Table put Request ze Page ita jeue Item ID Exception Data Output Data	a
age logging:	Errors only ~					

USE THE ACTION TOOL TO MARK ITEMS ON THE QUEUE COMPLETE

Action Proper	rties					?	_		×
Name: Description:	Mark Completed Marks the item as comp Locked to null. The iter been retrieved using G	pleted, by updatin <u>o</u> m must be 'owned' et Next Item.	g the Completed timestamp by the calling process - i.e	and setting e. it must have	< >				
Business Object Action Inputs Outputs	Work Queues Mark Completed				~	Group ✓ Pag ✓ Vie	; ge 🗌 w All Item	Data Type	
Name [tem ID		Data Type Text	Value [Queue Item ID]				et Exceptio et GDP Tal et Input Re itialize lain Page 	on Data ble equest tem ID tion Data It Data	
Stage logging: Warning threshold:	Errors on System D	ly ~ Default ~	Don't log parameters	on this stage	(0 to disable)		ОК	Can	cel

USE THE PAGE TOOL TO REFERENCE THE "NOTIFY" PAGE

Page Refer	nce Properties			?	-		2
Name: Description:	Notify		 				
Page:	Notify		~	Group:			
Inputs Output	s Conditions		1	🗹 Page	Da	ta Type	
Name	Data Type Value			View All	l Items		
				B-Get Ex Get Get Get Get Inj Control and a set of the set of t	Ception L DP Table put Requ ze Page ta ta seue Item Exceptior Dutput D	ID 1 Data ata	
age logging:	Errors only ~			L			_
arning thresho	d: System Default ~ Number of mi	nutes 5 🜲	(0 to disable)	ОК		Cano	cel



Curture and the	Decomp. 1
General benominate L	Masurrie 1

USE THE ICONS ON TOP OF THE STUDIO TO TEST THE VARIOUS PAGES AND ELEMENTS

Process Studio - Edit - GDP by Country Process

File Edit View Tools Debug Help	
且 🖶 👗 🛅 🕆 🗲 🗸 🥭 Zoom 100% 🛛 😋 🤤 Segoe UI	• 10 • B I <u>U</u> •
▶ • 5 🗐 🧊 😋 💭 (0) Errors ► 60 👸 🛅 🛄 • Find Text	👻 🦓 🖧 Dependencies
Repression:	

CHAPTER 5

Documentation Requirements

BLUEPRISM ROADMAP

- Every BluePrism project comes complete with solution documents as part of the process solution production.
- Each section of the process comes with its own documentation
 - Initial Process Analysis (IPA)
 - Process Definition Document (PDD)
 - Functional Requirement Questionnaire (FRQ)
 - Solution Design Document (SDD)
 - Operational Impact Document (OID)
 - Process Design Instruction (PDI)
 - Object Design Instruction (ODI)

INITIAL PROCESS ANALYSIS (IPA)

- The IPA has two main stakeholders
 - The analysis is created by a BluePrism developer
 - The analysis is read and approved by the Client Sponsor
- The objective of the IPA is to
 - Provide a high level analysis of the process solution
 - The automation efficiency (how much of the work can be performed by a robot) and
 - The effort involved in delivering and supporting the solution.

PROCESS DEFINITION DOCUMENT

- The PDD has three main stakeholders
 - Created by the Client Subject Matter Experts (SME) along with Blue Prism Developers
 - Read by the Client SME, Blue Prism Developer
 - Approved by the Client operation team.
- The objective of the PDD is to
 - Enable a novice with no prior knowledge of a business process to work cases correctly.
 - Expose and rectify any missing scope, ambiguity or incorrect flow.
 - Reveal gaps in the process definition.

FUNCTIONAL REQUIREMENT QUESTIONNAIRE (FRQ)

- The two main stakeholders for the FRQ are:
 - The Client SME
 - BluePrism Developer
- The Functional Requirements Questionnaire (FRQ) helps define the business process further to allow the solution to run unattended while still meeting the business needs. The document acts as a checklist that takes into consideration several areas of the business process:
 - Workload
 - Resource Requirement
 - Service Level Agreements
 - Operating Hours
 - Alerting
 - Data Management
 - Exception forwarding
 - Management Information and other reporting
 - Data Preservation
 - Business Continuity
SOLUTION DESIGN DOCUMENT (SDD)

- The purpose of the Solution Design Document (SDD) is to describe how Blue Prism will automate the process described in the PDD.
- The stakeholders for the SDD document are the BluePrism developers who create it, and the Client Operations who read and approve the document.
- The objective of the SDD is to provide:
 - Detail of the automated process for Client to understand and ultimately approve the proposed solution.
 - Include details of any other deliverables that are required
 - Mention other derivatives such as security requirements, scheduling, alerting, management information, and exception handling procedure, etc.

OPERATIONAL IMPACT DOCUMENT (OID)

- The OID is required to inform the client operation team of their responsibilities once the automated solution is in place. It is a description of the change that will be impacted upon them once the solution has been successfully implemented.
- It is created by the BluePrism Developer to be read and approved by the Client Operation Team.
- The SDD and OID document are accompanied by workshops to walk through and check the proposed automated solution and its effect on the wider business.

PROCESS DESIGN INSTRUCTION (PDI)

- The PDI is created by the BluePrism Developer to be read and approved by the other BluePrism professionals through a peer review.
- PDI are created for all Blue Prism processes that are to be created and should describe in detail the Blue Prism process, together with all the elements (components, business objects, work queues, environment locks, environment variables etc.) that support it.
- The logic for working each type of case should also be included, together with instructions on how to handle different types of exception.
- A completed PDI will form a work task for a developer.

OBJECT DESIGN INSTRUCTION (ODI)

- The ODI is created by the BluePrism Developer to be read and approved by the other BluePrism professionals through a peer review.
- The ODI is created as a blueprint from which business objects can be developed.
- The object design instruction describes each object to be built and for each action within that object lists the input and output parameters and the start and end screens.

BLUEPRISM PROVIDES A MORE EFFICIENT AND SCALABLE DESIGN BECAUSE

- More developers can work concurrently
- A running process consumes only the actions it requires.
- Application modeler is smaller and less prone to latent error
- Whenever a change is made within the object layer the effect on and risk to the process layer is minimized.