

Configuration Manual

MSc Research Project Cloud Computing

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Configuration Manual

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1 Introduction

This document encompasses the details regarding the configuration set-up of Blue Prism Multi-Robot architecture. It includes the prerequisites that are needed for the successful deployment of the solution along with the tools and technologies required for the development of the same. It gives a detailed set-up instructions on how this architecture could be simulated on any other system.

2 Tools/Technologies & Prerequisites

Here's a quick glance on the tools/technologies used:
RPA Tool: Blue Prism v6.8
Framework: .Net framework 4.7
Languages: XML, C#, Java
Database: Microsoft SQL Server
Hypervisor: Oracle VM Virtualbox

Some of the prerequisites needed for the solution are as follows:

- Microsoft .Net Framework 4.7 has to be installed in the system(Limited; 2020)
- Microsoft SQL Server 2017 for database support
- Instances of Virtual Machines should be created using Oracle Virtualbox/ VMware Workstation
- Blue Prism Installation file and license(refer the zip file)

3 Solution Deployment Configuration

As the RPA tool Blue Prism is a Windows-based application and the whole architecture revolves around it, its installation and configuration is vital for the deployment of the solution.

3.1 Blue Prism Client Configuration

- 1. Install the Blue prism application named BluePrismEvaluation6.8.exe(from the zip folder)
- 2. Once installation is complete, open the application and sign-in as shown in fig. 1. While trying to login for the first time, both the username and password should be entered as "admin".

LocaIDB Connection	Configure connectio
Sign in with Blue I User name	rism credentials
admin	
Password	
••••	
	Sign in using Blue Prism credentials

Figure 1: Blue Prism login details

3. For the Blue Prism v6.8, the local database is already configured as shown in fig. 2

Saved Connections	Current Connection	
LocaIDB Connection BPServer	Connection Name	LocaIDB Connection The name by which this connection will be remembered
	Connection Type	SQL Server (Windows Authentication) v
	Database Server	(LocalDB)\BluePrismLocalDB
	Database Name	The hostname of the database server BluePrism
	Additional SOL	The name of the database to connect to
	Connection Parameters	Semi-colon separated parameters to add to the connection string

Figure 2: Local DB Configuration

- 4. After login, the system would prompt to enter the new password and confirm it
- 5. Then install the license(zip file) under Setting tab as displayed in fig.3
- 6. Once the product is activated, select System admin from User roles under Security tab(fig. 6). Check all the roles in the permissions column.(Limited; 2018)



Figure 3: License Installation

es		Permissions
Alert Subscribers Developers Process Administrators Release Managers Runtime Resources Schedule Managers Schedule Managers Schedule Managers Testers Testers Web Service Consumers		 Image: System Manager Image: System Manager
Create	Delete	

Figure 4: Admin role Configuration

3.2 Blue Prism Server Configuration

1. For setting up the Blue Prism Server, go to services in the task manager. Check whether the Blue prism server service is running and switch it to automatic if it is not(fig. 7).

🚟 Block Level Backup Engine	The WBENGINE service is used by		Manual	Local System
🚵 Blue Prism Server	The Blue Prism Server Service	Running	Automatic	.\Administrator
🌼 Bluetooth Handsfree Service	Enables wireless Bluetooth headsets		Manual (Trig	Local Service
🔍 Bluetooth Support Service	The Bluetooth service supports disc		Manual (Trig	Local Service

Figure 5: BP Server service

2. Log on as the user from this account instead of local system account

Blue Prism Server Properties (Local Computer)						
General Log On Rec	covery Dependencies					
Log on as:	Log on as:					
Local System account Allow service to interact with desktop						
This account:	This account: .Vadministrator Browse					
Password:						
Confirm password:	•••••					

Figure 6: BP Server properties - I

- ·	iue Pris	sm Server Properties (Local Comp	uter)			
General	Log On	Recovery Dependencies				
Service	name:	Blue Prism Server				
Display	name:	Blue Prism Server				
Descrip	tion:	The Blue Prism Server Service				
Path to "C:\Pro	executabl gram Files	e: \Blue Prism Limited\Blue Prism Automate\BPS	erverService			
Startup type: Automatic			~			
Service	status : tart	Running Stop Pause R	esume			
You car from her	n specify t re. rameters:	he start parameters that apply when you start th	ie service			

Figure 7: BP Server properties - II

3. Open the Blue Prism Server(BPServer.exe) from the installed Blue Prsim folder(fig.8)

	Blue Prism Server - v6.	8.0
erver confia	uration	
Global server settings		
🟠 New configuration	Encryption settings	
Current configuration		
Default	¥	
🖉 Edit	🗙 Delete	
🖉 Edit Connection status	X Delete	

Figure 8: Blue Prism Server

4. Configure the settings as shown in fig. 9,10

>				Server Configuration Details	
Details	Key Store	Server Services	Logging	Data Gateways Settings	
Name:		[Default		
Databa	ase Connecti	on: I	LocalDB Co	onnection	
Conne	ction Mode:	١	WCF: Insecure		
			Requires tru Blue Prism A Requires se Fransport: S Not recomm Connection	ust relationship between devices: No Authentication Modes: Blue Prism Native inverside certificate: No 30AP over HTTP sended. security will need to be provided entirely by third-party solutions.	
Bindin	ig:				
Host	Name or IP /	Address:			
Port:		8	3199	÷	
Port:		٤	199		

Figure 9: Server Configuration - I

Windows Services associated with 'Default' server configuration								
Name	Service Path	Log On As	Startup Type	Status	URL Permissions			
Blue Prism Server	"C:\Program Files\Blue Prism Limited\Blue Prism Automate\BPServerService.exe"	.\Administrator	Auto	Running	~			
Je i hali Jeivei	Automate\BPServerService.exe"	. vidini ilisti ator	Add	Hanning	· ·			

Figure 10: Server Configuration - II

- 5. Login back to the Blue Prism application and set up the database for BP Server as shown in fig. 11. Ensure that the connection type is set to "Blue prism server" and the IP address should be set to the IP Addr.(Limited; 2018) of the machine where the server has been configured.(host machine in this scenario)
- 6. Now sign in back to the Blue Prism application using the configured BP Server database connection as shown in fig.12

Connection Name	BPServer					
	The name by which this connection will be remembered					
Connection Type	Blue Prism Server	~				
	The type of connection to use					
Blue Prism Server	192.168.0.54					
	The hostname of the Blue Prism Server					
Connection Mode	WCF: Insecure	~				
	This must match the mode configured on the Blue Prism Server(s)					
Server Port	8199					
	This must match the listening port configured on the Blue Prism Server(s)					

Figure 11: BP Server database settings

Sign in to Blue Prisr	n
Connection	
BPServer	×
	Configure connection
Sign in with Blue Prism cro	edentials
User name	
admin	
Password	
•••••	
	Sign in using Blue Prism credentials

Figure 12: BP Server Login

Note that since Blue Prism has both separate client and server applications, now the server logged-in application will act as the Blue Prism server for all the machines in the network and also it would act like one of the clients(robot) in the Multi-robot setup.

3.3 Connecting Blue prism Client from VM

- 1. First install the Blue prism application in the VM as per 3.1
- 2. Login to the application using the BP Server connection(fig. 13) using the same credentials as used in the host machine

shange language	
Sign in to Blue Pi	rism
Connection	
BPServer	¥
	Configure connection
- Sign in with Blue Prisn User name admin	n credentials
Password	
•••••	
	Sign in using Blue Prism credentials

Figure 13: Adding a VM client to the BP network

Once connected, all the available resources can be visible as shown in fig. 14

۵			Blue F	Prism - Robotic Proc	ess Automation Sof	tware - v6.8.0		? = 🗇 🗙	
File	Home	Studio	Control	Analytics	Releases	Digital Exchang	ge System	My Prof 4 +	
	Contr	rol	Sessions - Co	ntrol currently runn	ing sessions			Ξ	
	🖶 🛺 Session Mar	nagement	Available Processe	s - Drag and drop pro	cesses on to resources	Resources			
	Today	agement	Name	Det	rintion	Name	State	Session Info	
	🔤 🌣 Insurance	eQueue	🖻 👩 Default	505	anpuori	B all Default	51010	3031011110	
0.000	Active Queues		Scheduler				ldle	No sessions	
	Reports	t Activity es	👌 Layatrav	elWQ		JAISON	Idle JAISON		
II	Coday Construction	& Tomorrow IS ichedules ays							
1			Filter using selec	ted Process	ilter using selected Resou	arce <		>	
			Francisco					Character 100 111	
				start selected sessions	All -		Today	Show: 500 V	
			ID Brocare		Recourse	Liter Statur	Start Time	- Fod Time	
			io Process		Resource	Jacob Status	Juli Chine	chu nine	
	Apply Cha	anges	<					>	
C Sign Out	Previous: 8/11/202	0 1:33 PM, Curre	ent: 8/11/2020 1:51	PM, User: 'admin', Conne	ction: "BPServer', Conne	cted To: 'JAISON'		0.54.014	
	e 📄	i	9 🚯				🔿 😼 🛙	9:51 PM 8/11/2020	

Figure 14: Multiple clients available

3.4 Sharing input file using drive mapping

Share the Excel input file named 'Insurance.xlsx'(zip file) using drive mapping so that all the machines can access the file during task execution.

1. Right-click the input file and select Share-Everyone as shown in fig.15

3 File Sharing			
Choose people to share with			
Type a name and then click Add, or click the arrow to find someone.			
	~	Add	
Administrator jaison jj (imjais3@outlook.com)		Level	
Levelyone Homegroup	WHE	•	
I'm having trouble sharing			
		Share Car	nce

Figure 15: File sharing

2. Now map the network drive of the host machine with its IP address(fig. 17). Use the same address and drive for the virtual machines as well. Now the input file can be used by any of the clients when required in the task execution process.

)	🤏 Map N	etwork Drive									
	What network folder would you like to map?										
	Specify the o	drive letter for the connection and the folder that you want to connect to:									
	<u>D</u> rive:	Y: ~									
	F <u>o</u> lder:	\\192.168.0.54\BluePrism <u>B</u> rowse									
		Example: \\server\share									
		✓ <u>R</u> econnect at sign-in									
		Connect using different credentials									
		Connect to a Web site that you can use to store your documents and pictures.									

Figure 16: Mapping network drive

3.5 Execution of the task

1. Now import the bp release files(included in zip) named LayatravelWQ and laya-Google for both process and object studio respectively.



Figure 17: Importing release files

2. Since all the multiple robots are now connected, we can proceed with the execution. Execution can be done in two ways.

i. It can be done either using the Run option from the process Studio as shown in fig.18

ii. Or it can be done using the Control room(fig.19) where the process has to be just dragged to the multiple resources(bots)



Figure 18: Execution through Process Studio

Control	Analytics	Releases	Digital Exch	ange	System	My Profile
Sessions - Contr	ol currently running	g sessions				
Available Processes	- Drag and drop proces	ses on to resources	Resources			
Name	Descript	tion	Name		State	Session Info
🖃 🁩 Default			🖃 🁩 Defai	ult		
🔤 🛃 LayaTravel Ir	nsurance		물비	DSHEA	Idle	No sessions
Filter using selected	Process Fil	ter using selected Reso	urce <			

Figure 19: Execution through Control Room

4 Validations

Validation of the Blue Prism Multi-Robot system can be done using the Control Room's Queue Management. It displays all the items of the task queue as shown in fig. 20

Control	Queu	ues - Configu	ıre work qu	eues									
Session Management	1 queues (Running: 1, Paused: 0)												
Today	Queu	e Name		Status	Worked	Pending	Referred	Tot	al Average Case	Duration	Total Case	Duration	
Active Queues Scheduler Reports Recent Activity	Instant	suranceQueue		Running	3	0	1		4	00:39.750	(02:39.000	
Timetables													
Schedules													
Retired Schedules													
p Data Gateways													
	0	Contrate	Charle Charl										
	All			A11 V		A 11	V A11	~	All 🗸	All	~		
		Item Key	Priority	Status	Tags	Perource		Attempt	Created	~	Last Undated	Completed	Total Work Ti
	- 1	2	0	Status	logs	HOSHEA	lebug	2	7/25/2020 11:26:14 P	7/25/2	020 11:28:11 PM	7/25/2020 11:28:11 P	01:3
	Þ	2	0		Exception: Auto	m HOSHEA	debug	1	7/25/2020 11:26:14 P	7/25/2	020 11:27:31 PM	.,	00:5
	1	3	0			JAISON_de	ebug	1	7/25/2020 11:26:14 P	7/25/2	020 11:27:23 PM	7/25/2020 11:27:23 P	00:3
	 ✓ 	1	0			JAISON_de	ebug	1	7/25/2020 11:26:14 P	7/25/2	020 11:26:48 PM	7/25/2020 11:26:48 P	00:3

Figure 20: Validation of the Multi-Robot system

If all the items have a green-tick in the flag column, it shows that the task has been completed successfully. Else if any of items have a flag-mark, it means except those items, all others are executed properly.

Also, the audit for both the process logs and object logs can be found under the Audit column of the System tab. It has both the the statistics for their status and execution time as shown in fig.21

Audit - Proc	ess	Logs		
Reset Filters			Search All	Search Selected O Vieweight O Vieweigh
Last 31 Days	~	All 🗸	All	V All V
Start		End	Process	Status
7/20/2020 12:24			LayaTravel Insurance	Debugging
7/21/2020 12:08	:3	7/21/2020 1:28:56	LayatraveIWQ	Debugging
7/23/2020 8:44:2	26	7/23/2020 8:45:07	LayatraveIWQ	Completed
7/23/2020 8:48:4	44	7/23/2020 9:04:53	LayatravelWQ	Debugging
7/23/2020 8:50:3	35	7/23/2020 8:51:29	LayatraveIWQ	Completed
7/23/2020 8:52:5	57	7/23/2020 8:53:21	LayatraveIWQ	Completed
7/23/2020 8:55:5	55	7/23/2020 8:56:18	LayatraveIWQ	Completed
7/23/2020 8:58:2	23	7/23/2020 8:58:45	LayatraveIWQ	Completed
7/23/2020 9:05:0	02	7/23/2020 9:06:05	LayaTravel Insurance	Debugging
7/23/2020 9:08:1	16	7/23/2020 9:21:37	LayatravelWQ	Debugging
7/23/2020 9:24:4	40	7/23/2020 9:35:42	LayatravelWQ	Debugging
7/25/2020 7:16:3	35	7/25/2020 8:59:42	LayatravelWQ	Debugging
7/25/2020 7:18:1	11	7/25/2020 7:23:40	LayaMutliRobot	Debugging
7/25/2020 8:47:4	41	7/25/2020 8:48:09	LayatravelWQ	Completed
7/25/2020 8:50:3	35	7/25/2020 8:50:59	LayatravelWQ	Completed
7/25/2020 9:00:5	51	7/25/2020 9:05:13	LayatravelWQ	Debugging
7/25/2020 9:10:5	59	7/25/2020 9:11:27	LayatravelWQ	Completed
7/25/2020 9:17:2	27	7/25/2020 9:18:01	LayatravelWQ	Completed
7/25/2020 9:18:4	43	7/25/2020 9:19:16	LayatravelWQ	Completed
7/25/2020 9:20:3	36	7/25/2020 9:21:35	LayatravelWQ	Completed
7/25/2020 9:52:5	56	7/25/2020 9:53:41	LayatravelWQ	Completed

Figure 21: Audit - Process logs

References

Limited, B. P. (2018). v6.4 User Guide - Installing Enterprise Edition, Blue Prism.

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