

Automated Communication of Emails and Dynamic Attachments through RPA Blue Prism

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Abstract:- Robotic process automation (RPA) is the application of technology that provides organizations with a digital workforce that follows rule-based business processes and interacts with the organizations systems in the same way that existing users currently do. Blue Prism is one of the RPA Tool has been credited for coining the term Robotic Process Automation.

Blue prism is a UK-Based Software Company and is one of the leading robotic process automation tools. It is used to automate mundane tasks such that they could operate without any manual intervention. Blue prism has gained edge over its competitors as it has better security, flexibility, scalability, compliance, and resilience. Blue Prism helps the enterprises to automate the business operations in an agile and cost-effective manner.

Here I discussed the major parts of Blue Prism, Process Studio Object Studio and few automated scenarios of web based applications and sending automated Emails.

Keywords:- RPA, Blue Prism Object Studio, Process Studio. Automate Excel sheet, Emails and dynamic attachments.

1. BLUE PRISM'S ROBOTIC AUTOMATION

Robotic Automation refers to process automations where computer software drives existing enterprise application software in the same way that a user does. This means unlike traditional application software, Robotic Automation [1] is a tool or platform that operates and orchestrates other application software through the existing application's user interface and in this sense is not "integrated".

Blue Prism's Robotic Automation software enables business operations to be agile and cost-effective through rapid automation of manual, rule-based, back office administrative processes, reducing cost and improving accuracy by creating a "virtual workforce"[2][3]. Figure 1 shows home screen of Blue Prism.

The virtual workforce [4] is built by the operational teams or accredited Blue Prism partners using our robotic automation technology to rapidly build and deploy automations through leveraging the presentation layer of existing enterprise applications. The automations are configured and managed within an IT-governed framework and operating model which has been iteratively developed through numerous large scale and complex deployments.

RPA Benefits

- The following are the advantages of RPA –
- Building a unified view of the customer
- Increased customer satisfaction

- Increased employee productivity
- More accuracy and quality
- Cost effective
- Up to 80% reduction in Average Handle Time and Average Resolution Time
- Increased ROI (Return on Investment) within 3 months on an average.

Different tabs of Blue Prism

6 types of tabs in Blue Prism as follows

- Home
- Studio
- Control
- Dashboard
- Releases
- System

Home

Home has displays different charts which gives information about the blue prism database. Workforce availability shows the run time resources that we are using, total automations shows the number of queues and automations in the database, queue volumes now gives the queue volumes by status and largest database tables shows the largest tables in the blue prism database.

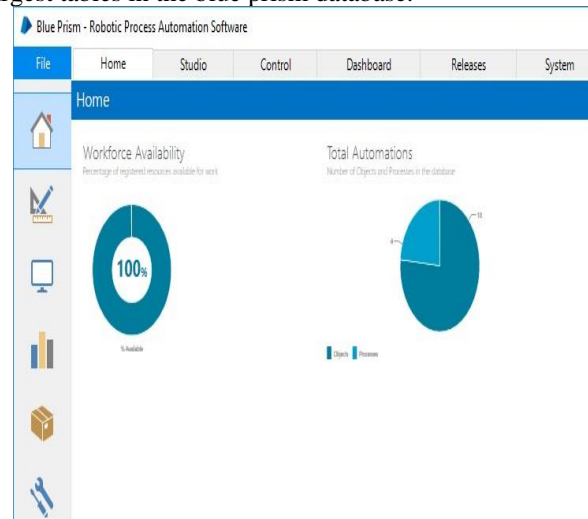


Figure 1: Home screen of Blue Prism

Studio

Studio is an important part of Blue Prism where we implement actual automation steps. There are two studios: Object Studio and Process Studio.

Control

Control room is the central point of administration in Blue Prism where it handles control, monitor, execute and schedule of process executions on the distributed bots.

Dashboard

Dashboard is used to depict different charts displaying information about robotic work force.

Releases

Release manager is used to manage import and export of configuration packages between different blue prism environments.

System

System tab is used by administrator for user management.

2. BUSINESS OBJECT

The interface to an application is not contained within a Process diagram, but in a separate diagram known as a Business Object

A Business Object is not configured in Process Studio but in a distinct, parallel environment named Object Studio.

- The purpose of a Business Object is to provide an interface to one application.
- A Business Object is not exposed to Control Room and is never used on its own – it is always used by a Process.
- Business Object logic can be thought of as forming a separate layer to Process logic.
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3. PROCESS STUDIO

A Blue Prism Process is created as a diagram that looks much like a common business flow diagram. Processes are created in Process Studio which, and uses standard flow diagram symbols and notation. As shown in fig 2a.

The key difference with a Blue Prism diagram is that it is not an inert two-dimensional representation of a Process.

Rather, it is the graphical representation of a working computer program, one that will interact with applications, manipulate data, and perform decisions and calculations.

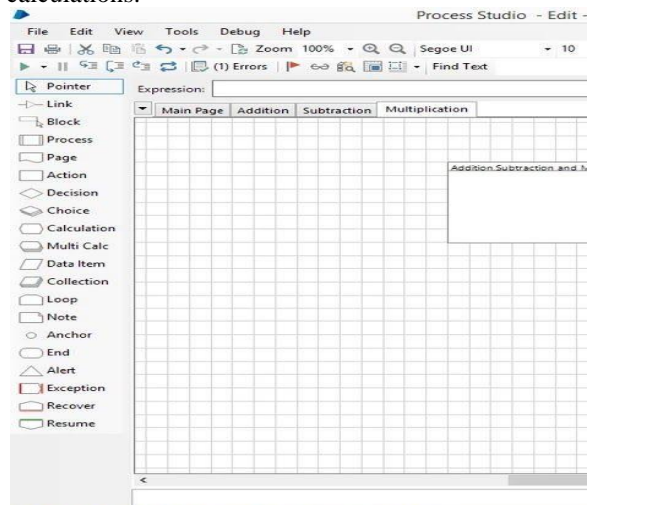


Figure.2a. Process Studio

4. OBJECT STUDIO

Object Studio is used to capture the functionality of an application so that it can be employed by Processes.

A Process is used to combine the application functionality with business rules in order to perform useful work. This application functionality is known as a Business Object.

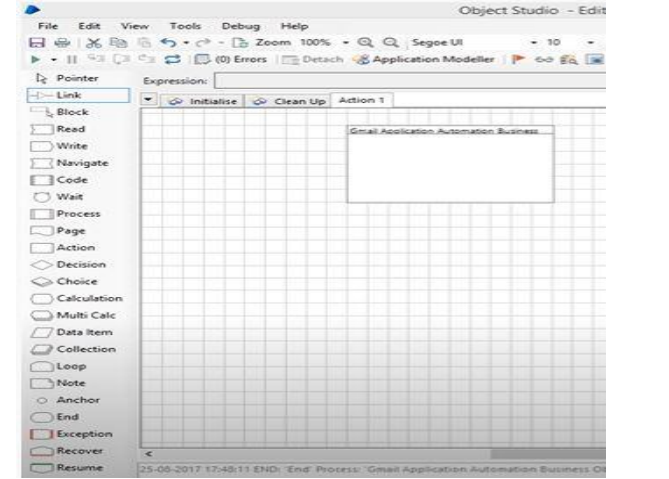


Figure 2b: Object Studio

We will see that Object Studio looks very like Process Studio. There are key differences, which we shall look at in due course, but the principle points to know at this point are as follows:

- Object Studio is similar to Process Studio and a Business Object is configured as a diagram much in the same way.
- Object Studio offers some types of stage not available to Process Studio.
- Object Studio does not have a Main Page - but it does have two default pages.
- Pages are organized as a flat group rather than the hierarchy we have seen in Process Studio.

5. APPLICATION MODELLER:

Application modeller is used for spying the applications. Spying is identifying the elements in the Applications.

Spying Modes

We have 4 different types of spying modes as shown below

- Win32 Mode
- HTML Mode
- Accessibility Mode
- Region Mode

Steps to select any of the spying modes or to switch between different modes –

- Use Ctrl and Left-Click to select the highlighted item in spying modes.
- Use Ctrl and Right-Click to Cancel.
- Press the Alt Key to switch spy modes.

We can spy Desktop, Web and SAP Applications.

6. METHODOLOGY

We have done below 3 experiments of Automation using Blue Prism

I. Automation of Sending Email using blue prism

We can perform this task using Process Studio or Object Studio.

To send email first we need to predefine Business Object. Blue Prism provides the predefined business object 'Email POP3/SMTP' to perform mail operations and also provided Actions such as Configure, Send Message, Delete Message, Get Messages, List Messages, and Save Attachments

Step 1: We have created a new Process and will provide name to the Process.

Step 2: Create two data items for user name, password and we will configure the values of name of Date item, data type and Value.

Step 3: Create an action stage with name Configuration and select the Business Object as 'Email POP3/SMTP', Action value as 'Configure' and provide details of all Inputs values as show in the Figure 3 and click ok

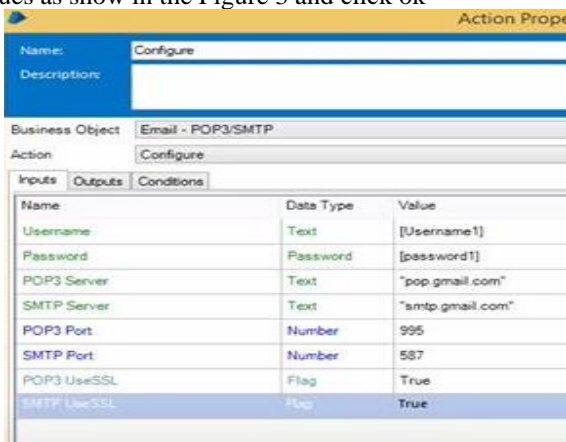


Figure 3: Shows Configure Action stage properties

Step 4: Create other action stage with name Send email and select the Business Object as 'Email POP3/SMTP', Action value as 'Send Message' and provide details of all Inputs values as show in the Figure 4 and click ok.

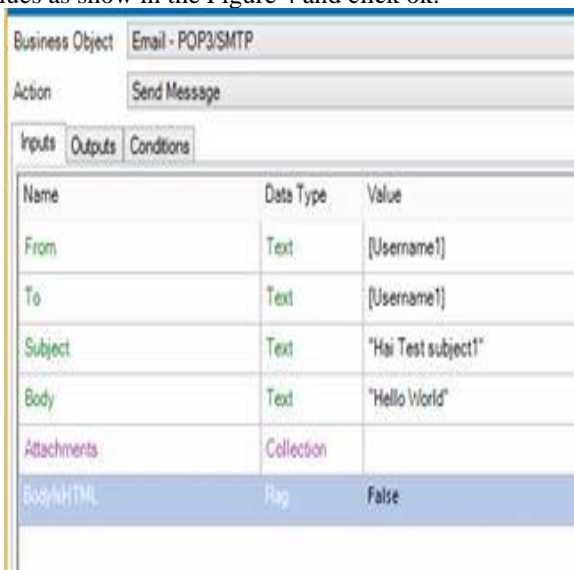


Figure 4: Shows Send email Action and its input Properties

Step 5: We will create a collection for sending multiple file as attachments.

Using Collection stage we can send multiple attachments through email. In Collection Stage we must add the Field, provide name and type for the newly clicking add field. As shown in figure 6

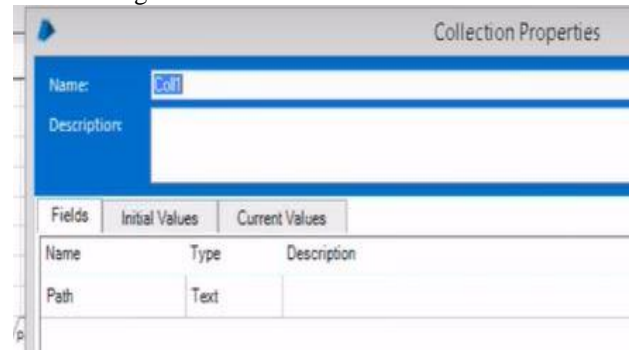


Figure 6: New field named Path

In Initial Values tab we will provide multiple files names with path as shown in below figure 7.

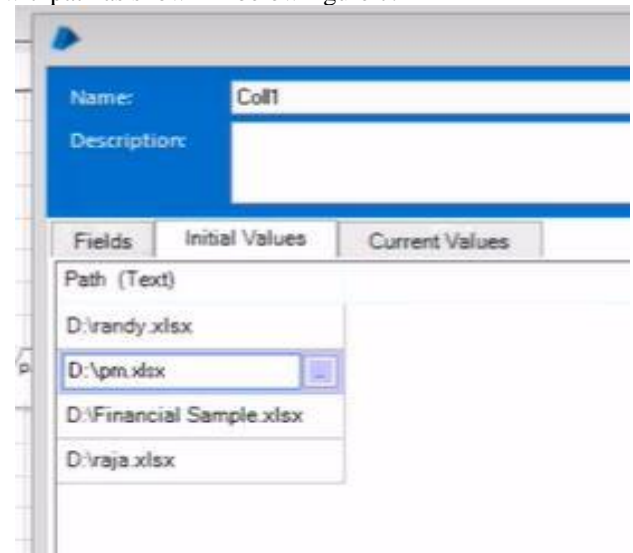


Figure 7: Shows the files to be attached

Step 6: Now Link all the stages as shown in Figure 8 and save the Process and run it manually. Once Process ran successfully, Blue Prism will connect to Gmail server with the details provided in both actions and send email with attachments.

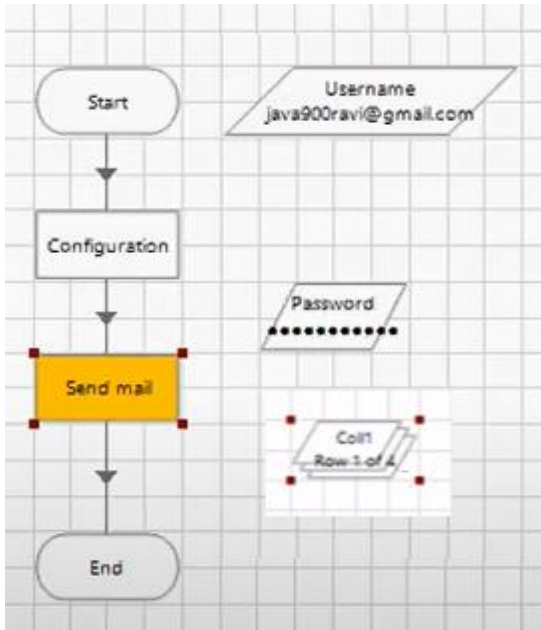


Figure 8: Final flow chart diagram of Process.

Control Room

Using control room we will directly run process created by us and we can also automate this Process by using scheduler.

Session Management has Available Process, Available resources(Bots) and Environment.

First, we need to publish the processes which we created. Once Process is published it will appear under list of available processes in Control Room, next we need to assign this Process to Available resource by drag and drop. Now Process is assigned to available resource, In Environment tab Sample email process will be added as entry, session id is provided automatically for this Send mail Process and finally entire Process is ready for execution at any time. We can automate this Email Process by schedulers in Control Room as per request.

We can run manually or Bot will run the Process as per schedule and email forward to sender and we are seeing email in sent items in Gmail as shown in figure 9.

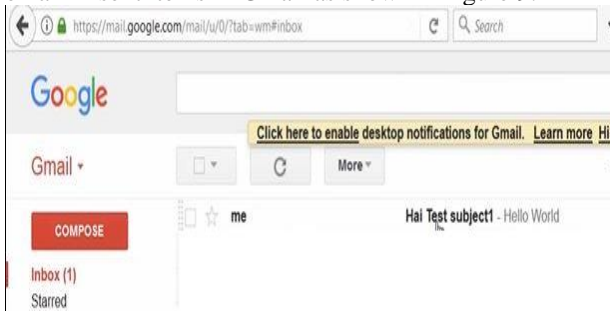


Figure 9: Email from sent list

II. Web Application Automation:

Here we can automate the any website URL using Blue prism and perform any required operations. Here we tried to automate the Facebook login.

First create and new Object and name it as FacebookAutomation

Using Application Modeller we provided browser path and FacebookURL application and click ok and Launch. Once we clicked launch Blue prism will open the Facebook application in the browser. Now Spy the username, password fields and login button and finally create elements in the Application Modeller. Created 2 write stages for username, password and navigate stage for login button. Please find the Flowchart diagram in figure 10.

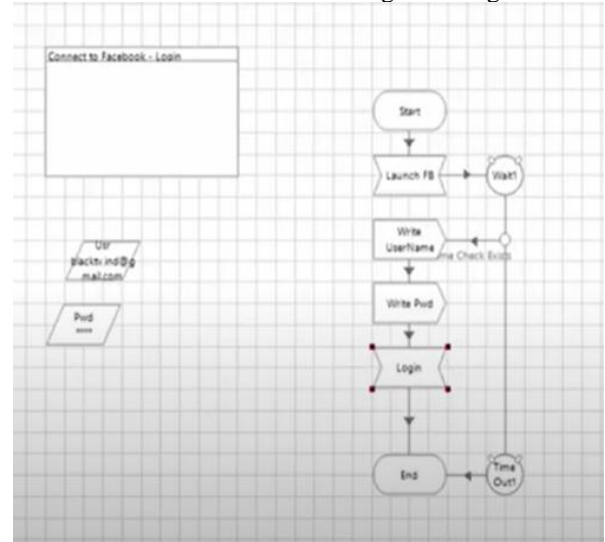


Figure 10: Object Studio Flowchart for web application

III. Automate Excel Sheet

We automated the excel sheets using MS Excel VBO. Using actions Create instance, open Work Book, Get Worksheet as Collection, Close instance, As per Flowchart shown in figure 12, Blue Prism create the instance and open the work book excel sheet and read the date shown in figure 11 and saved it in collections shown in fig 13 and finally instance will be closed and ended. Now we received data from excel and later we can perform different operation like we can save collection data into Database or saved into other files.

	A	B	C	D	E
1	Name	Postion	Place		
2	Rames	Develope	Hyd		
3	Suresh	Tester	Bangalore		
4					

Figure 11: Excel Sheet with Data

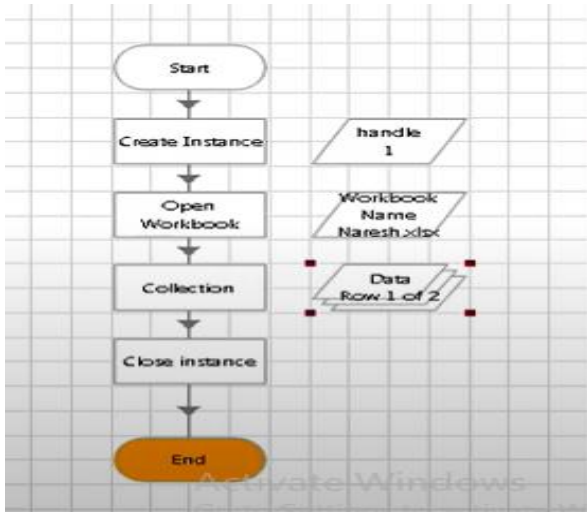


Figure 12: Excel Sheet Flowchart

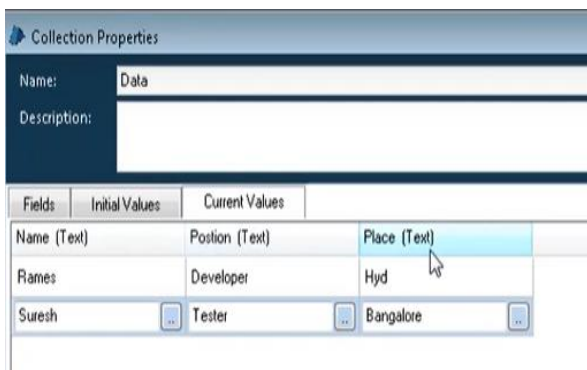


Figure 13: Excel Data stored into Collection.

8) CONCLUSION:

Using RPA Blue Prism we can automate the all the human repeated task everywhere. Blue Prism is used in multiple industries such as Banking, Manufacturing, Telecommunications, media and technology, financial services, Public sector, Energy & utilities, Hospitality, Insurance, Healthcare and life sciences, Transportation and logistics, Retail which saves time cost. Regardless of your industry, Blue Prism’s Digital Workforce can adhere to strict governance and compliance standards without limiting productivity.

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