Robotic Process Automation

Development Specifications Document (DSD)

*Process Name: Calculate Client Security Hash*

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Version Control

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Version | Role | Name | Organization Department | Function | Comments |
| 10/5/2021 | 1.0 | Author | Abdelrahman Abdelagawad |  |  |  |

# Document Overview

The Development Specifications Document (DSD) is created for every business process automated using RPA. The DSD needs to be reviewed and updated for every change requested and applied to the automated process. This document provides a technical snapshot and must always reflect the latest design and key features of the automated workflow.

The document naming convention will follow the naming convention and the version of the automated process. This can be “business process name version” or it can be defined, case by case, as part of the larger RPA project design.

This document is completed by the RPA Solution architect and RPA developer who automates the business process. It is reviewed by the business process owner, application owner, and CoE design authority.

This document is meant to assist the RPA COE, IT operations and process owners by providing a snapshot of the automated process details and components. It can also serve developers to have a quick glance at the setup, before diving into the code, to troubleshoot or update changes. The purpose of the document is to record the outcome specific to the automated master project and its subcomponents: projects, workflows, sequences etc.

# Master Project Details

Details filled in by the developer reflect the actual information for the master project released for production.

|  |  |  |
| --- | --- | --- |
| # | Item | Details  Fill in with free text. If not applicable, mark the filed as "N/A". No empty fields. |
| 1 | Master Project Name and Version | Calculate Client Security Hash 1.0 |
| 2 | Robot Type (attended/unattended/mix) | Attended |
| 3 | Is Orchestrator used? (Yes/No) | No |
| 4 | Scalable? (Yes/No)  Can the process be run by multiple robots in parallel? | No |

# Runtime Guide

## Runtime Diagram

**Architectural Structure of the Master Project** Display the interaction between components (package / robots, Orchestrator queues, and running order).

Diagram

Description automatically generated

## List of Packages

Include **the list of packages and the high level description** for each of them, to explain each one's purpose:

|  |  |  |
| --- | --- | --- |
| # | Package Name | High-Level Description |
| 1 | Calculate Client Security Hash | Generates the security hash for each client based on their personal information. |

\*Add more rows to the table to include all the project names and versions. No fields should be left empty. Use “N/A” for the items that don't apply to your project.

## Master Project Runtime Details

Details of the automated process:

|  |  |  |
| --- | --- | --- |
| # | Item | Details  (Fill in with free text. If the section does not apply to your automation, mark the field as “N/A”. No empty fields. ) |
| 1 | Production Environment Details | N/A |
| 2 | Prerequisites to run | Internet connection, Microsoft edge installed |
| 3 | Input Data | ACME’s credentials (Username & Password) |
| 4 | Expected Output (output data) | All work items of type WI5 processed and completed |
| 5 | How to start the automated process? | N/A |
| 6 | Resuming the process from a particular step | N/A |
| 7 | Reporting  queues reporting, Kibana or another platform | Through logging |
| 8 | Manual Error Handling  roll back or manually complete failed transactions. Procedures to reset the item. Ex “set status as investigating” | If an error occurs stop the process |
| 1. How to resume the process in case of error | N/A |
| 1. How to manually fix transactions with error | N/A |
| 9 | Use of Orchestrator | N/A |
| 1. Password Policies   specific compliance requests? | N/A |
| 1. Stored Credentials   Never hard code credentials in the workflow | N/A |
| 1. List of Asset Names | N/A |
| 1. List of Queues Name | N/A |
| 1. Schedule Details | N/A |
| 10 | Recommended Resolution | N/A |

# Project Details

In this section describe all the projects that compose the automated process.

For each project, describe the workflow(s) in the logical order that they are called in.

If the workflow is a flowchart, also include the exported image from Studio.

If the automated process is composed of multiple projects, copy paste and fill in the table below for each project with its specific details (there are 2 here already, assuming a dispatcher and performer project)

## Project Name: Calculate Security Hash Code

General information about the process selected for RPA prior to automation.

|  |  |  |
| --- | --- | --- |
| # | Item Name | Details  Fill in with free text. If not applicable, mark the field as “N/A". No empty fields. |
| 1 | Environment used for development  name, location, configuration details etc | Local machine, Windows10 |
| 2 | Environment prerequisites  OS details, libraries, required apps | Microsoft edge browser |
| 3 | Logging level | Info |
| 4 | Details about automation  if the apps were automated using UI Automation, Image & Text | The apps were automated mainly using UI Automation |
| 5 | In case of attended bot, can the user operate the computer while the robot is running? | Yes, every activity runs in the background |
| 6 | Repository for project  where the developed project is stored | The project is stored locally |
| 7 | List of reused components | N/A |
| 8 | Frequent errors found in the development phase | Reading client information.  Reading the security hash code from SHA1 website. |
| 9 | Workarounds used in the automation phase | N/A |
| 10 | Configuration method  assets, excel file, Json file | N/A |
| 11 | Configuration details  path for input files, configuration Orchestrator assets used | N/A |

### Workflow(s) specific to the Project

Define below all the workflow files (.xaml files) used in the project, with the Input and Output data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Workflow File Name | Description | Arguments | Comments |
| 1 | PromptForCre  dentials | Prompts the user to enter their username and password for the ACME test  site. | out\_Password - string  out\_Username - string |  |
| 2 | OpenBrowser | Opens a browser to the input URL | in\_URL – string |  |
| 3 | LogInACME | Logs into the ACME test site  and ensures the login was  successful | in\_Password - string  in\_Username - string | Throw BRE  if the page didn’t load or the login credentials didn’t work. |
| 4 | IterateWorkIte  ms | Scrapes the work items from ACME and filters by open WI5 types. If there are open  WI5s, it will invoke updating each work item with the hash | in\_URL\_AcmeWI - string  in\_URL\_SHA1Generator – string | Throw BRE if no open WI5 |
| 5 | ProcessWorkIt  em | Process a work item 5 by scraping the data from its page, calculating the hash and updating the page | in\_URL\_AcmeWI - string  in\_WIID - string | Hash entered must be all  lowercase |

# Compliance Considerations and Reporting Requirements

# Other Details

## Future Improvements

* Store the user credentials on the orchestrator to make the robot Unattended.
* Add retry mechanism for each transaction if anything failed.

## Debugging Tips

## Other Remarks

# Post UAT Specifications

* Average duration per transaction (varies depending on the Test environment): 10-15 Secs
* Recommended number of robots for the specified volumes: One

# Glossary

* **Master project** - the overall output of the development, containing one or multiple projects that together cover the scope of the robotic process automation.
* **Project** - a UiPath Studio project containing one or multiple workflow files. A project can be converted to a package and run independently, covering a particular scope within the master project. The project is used when defining the development and support phase of the automation.
* **Package** - the output of compiling a project. A package can be deployed on the robot machine and be executed by the robot service. Only one package can be executed at a given time by a robot. The package is used when defining the running phase of the automation
* **Workflow** - a component of the package, the workflow encapsulates a part of the project logic. The workflow can be of type: sequence, flowchart or state machine. a workflow is saved as an .xaml file inside the project folder. A workflow file can be invoked from another workflow and by default there is an initial workflow file that will run when executing the package.
* **Activity** - an action that the robot executes.
* **Sequence** - a workflow where activities are executed one after another, in a sequential order
* **Flowchart** - a workflow where activities are connected by arrows and the logic of the workflow can be easily followed in a visual manner. The flowchart can also be exported as an image from UiPath studio
* **State machine** - a more advanced way of organizing a workflow, similar to a flowchart.
* **BOR** - Back office robot
* **FOR** – Front office robot
* **Orchestrator** – Enterprise architecture server platform supporting: release management, centralized logging, reporting, auditing and monitoring tools, remote control, centralized scheduling, queue/robot workload management, assets management.