TreasuryConfirmation - Solution Design Document (SDD)

7/2/2022

**DataParticles**

|  |  |
| --- | --- |
| **Document Name:** | **TreasuryConfirmation - Robotics Solution Design Document (SDD)** |
| **Project Name:** | **TreasuryConfirmation** |

**Revision History**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Rev. #** | **Date** | **Sect./Page #** | **Revision Summary** | **Author** |
| D0.1 | 06/27/2022 | All | Initial Draft | Hariharan Gouri, Rajesh Sudileti |
| D0.2 | 06/27/2022 | All | Added project name | Hariharan Gouri, Rajesh Sudileti |
| D0.3 | 07/02/2022 | 08 of 16 | Added Workflow Names and Flowcharts | Hariharan Gouri, Rajesh Sudileti |

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# Automated Master Project Details

### Introduction

**[Please have the developer fill in to reflect the actual information for the master project released for production.]**

|  |  |  |
| --- | --- | --- |
| **#** | **Item** | **Details** |
| 1 | Master project name and version | TreasuryConfirmation |
| 2 | Robot type (attended / unattended / mix) | Attended |
| 3 | Is Orchestrator used? (Yes / No) | Yes – Package & Process |
| 4 | Scalable? (Yes/ No) | Yes |
| 5 | Schedule (when will the process run) | Attended Automation – User will manually trigger the process from UiPath Assistant |

### Summary:

### Bot enters the given Payment Instructions into the Treasury Confirmation and Reconciliation of Oracle ERP web application based on the process type which is Confirmation or Back Out of respective Payment Instruction and the final on-screen display status will be updated into the final output excel sheet.

### Upon getting Unconfirmed status bot will execute the concurrent program by entering the request number and retrieves the log messages, will be updated as bot comments into the final output excel sheet.

### Final output sheet will be shared to SME.

### Developer(s): Hariharan Gouri, Rajesh Sudileti

# Runtime Guide

### List of Packages

**[Please list packages and provide a high-level description for each.]**

|  |  |  |
| --- | --- | --- |
| **#** | **Package name** | **High-level description** |
| 1 | TreasuryConfirmation |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |

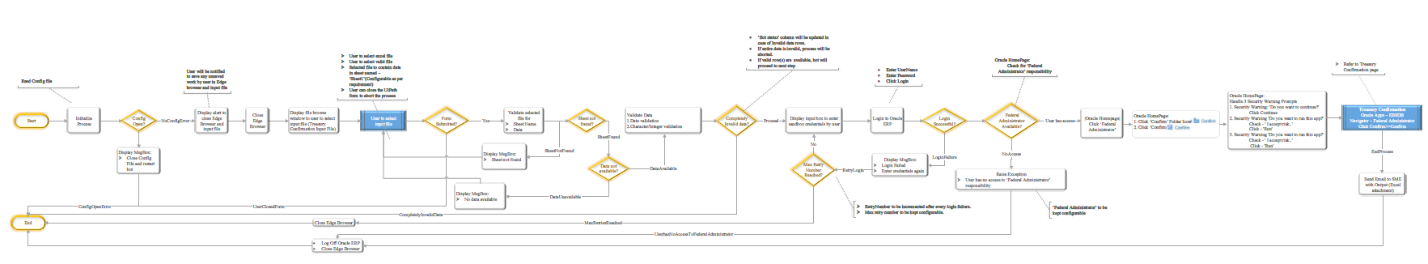
*\*Add rows to the table as needed.*

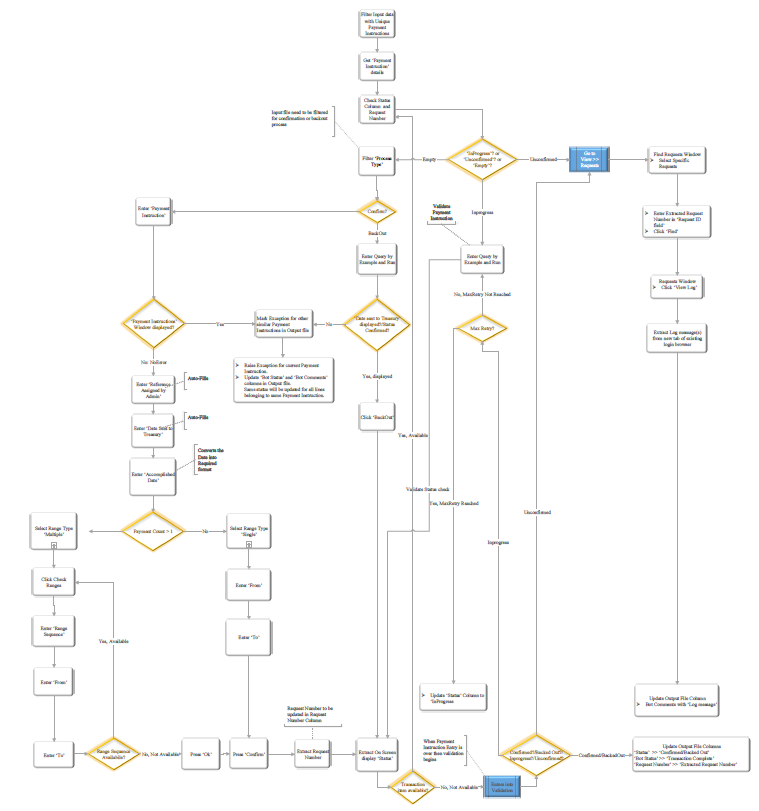
### Master Project Runtime Details

**[Please document key details for the automated process.]**

|  |  |  |
| --- | --- | --- |
| **#** | **Item** | **Details**  **(If a section does not apply please mark the field as “n/a”. No empty fields. )** |
| 1 | Production environment details | NA |
| 2 | Prerequisites to run | 1. Edge browser needs to be installed. 2. IE mode needs to be enabled in Edge browser. 3. Install UiPath extension in Edge browser. 4. Install UiPath assistant. |
| 3 | Input Data | Treasury Confirmation Input File (Excel) – User will select input file during bot run. |
| 4 | Expected Output (output data) | Updated excel sheet with on-screen display Status, Bot status, Bot Comments and Timestamp post Treasury Confirmation bot run. |
| 5 | How to start the automated process? | Attended Automation – User will manually trigger the process from UiPath Assistant |
| 6 | How to resume the process from a particular step? | 1. **User prompted for ‘InputFilePath’ in UiPath form**: User will need to browse for input file path and hit submit on UiPath form to resume. 2. **User prompted to enter Oracle ERP credentials in input box**: User will need to enter credentials and hit login to resume. |
| 7 | Reporting (queues reporting, Kibana or another platform) | Output data in excel will be sent in an email to SME for every bot run. |
| 8 | Manual Error Handling (roll back or manually complete failed transactions). Procedures to reset the item (e.g. “set status as investigating”) | User will need to manually complete failed transactions for system exceptions. |
| How to resume the process in case of error | Recovery mechanism is included in the bot. |
| How to manually fix transactions with error | User can make required corrections in input file based on bot comments and restart bot. |
| 9 | Use of Orchestrator | Yes |
| Password policies (e.g. specific compliance requests) | Passwords will not be saved in Orchestrator.  User will enter password during bot run for Oracle ERP login. |
| Stored Credentials:  (Never hard code credentials in the workflow) | No  User will enter password during bot run for Oracle ERP login. |
| List of Queues Names (Follow naming convention ProcessName\_QueueName) | No Queues used |
| 10 | Multiple resolutions supported  (in case of image automation/ Citrix) | N/A |
| Recommended resolution | N/A |

### Runtime Diagram – Architectural Structure of the Master Project



****



### Running the Automation as RDA

### Launch ‘UiPath Assistant’.

1. Install process ‘TreasuryConfirmation’ if not installed already.
2. Click on play icon to run process.

# Project Details

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

Add to the title of this section the actual project name of the automated process.

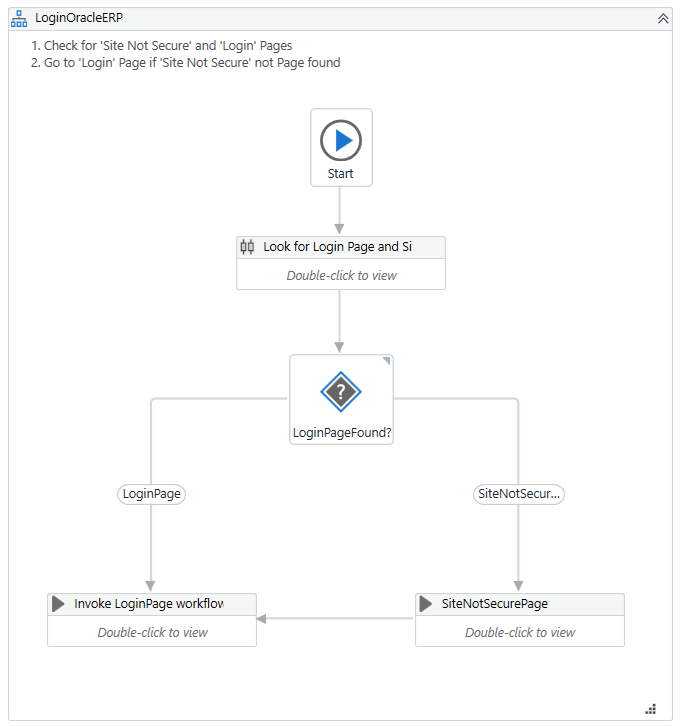
|  |  |  |
| --- | --- | --- |
| **#** | **Item** | **Details** (If a section does not apply please mark the field as “n/a”. No empty fields. ) |
| 1 | Environment used for development (name, location, configuration details, etc.) | Dev Orchestrator |
| 2 | Environment prerequisites  (OS details, libraries, required apps) | 1. Edge browser needs to be installed. 2. IE mode needs to be enabled in Edge browser. 3. Install UiPath extension in Edge browser. 4. Install UiPath assistant. |
| 3 | Logging level | Info, Warn, Error |
| 4 | Details about automation (if the apps were automated using UI Automation, Image & Text) | UI Automation |
| 5 | In case of FOR, can the user operate the computer while the robot is running? | User cannot use same system during bot run. |
| 6 | Repository for project (where the developed project is stored) | [FedBotFactory](https://github.com/FedBotFactory)/**[TreasuryConfirmation](https://github.com/FedBotFactory/TreasuryConfirmation)** |
| 7 | List of reused components | TBD |
| 8 | Custom logs defined in the workflows (where Throw Activity used, or custom log message defined) | TBD |
| 9 | Frequent errors found in the development phase | TBD |
| 10 | Workarounds used in the automation phase | TBD |
| 11 | Configuration method (assets, excel file, Json file) | Excel |
| 12 | Configuration details (path for input files, configuration Orchestrator assets used) | TBD |

#### Workflow(s)

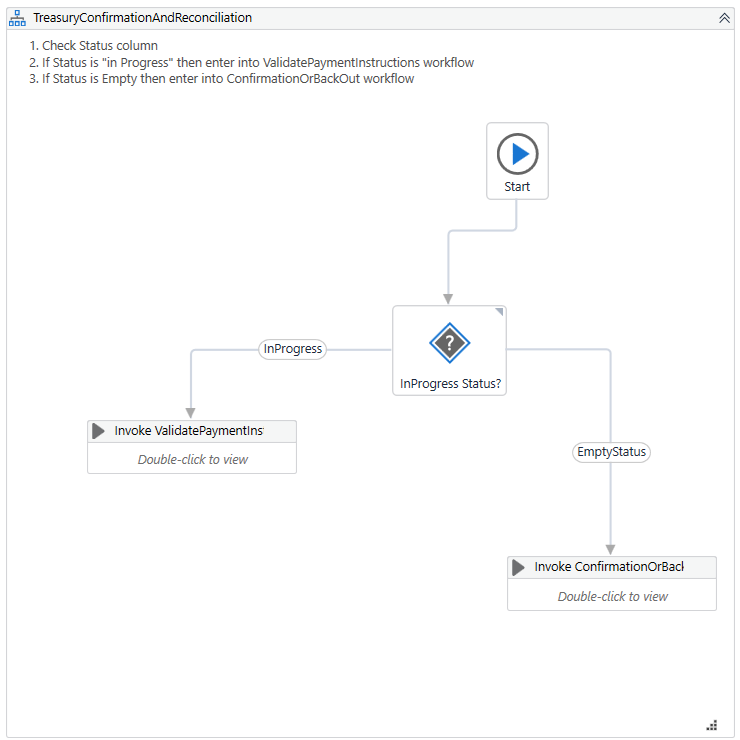
**Define below all the workflow files (.xaml files) used in the project, with the Input and Output data.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Workflow file name** | **Description** | **Input Argument** | **Output Argument** |
| 1 | InitAllSettings | Read Config file | in\_ConfigFile  in\_ConfigSheets | out\_Config |
| 2 | BrowseFile | Opens a UiPath form to select input file | in\_Config | out\_strFilePath |
| 3 | ReadTreasuryConfirmationInputFile | Read input file | in\_strInputFilePath  in\_Config | out\_dtMainData |
| 4 | ValidateTreasuryConfirmationInputFile | Validates data in input file | in\_Config  in\_strOutputFilePath  io\_dtMainData |  |
| 5 | GetUniquePaymentInstructions | Filter Unique Payment Instructions and maps to Transaction Data | in\_config  in\_dtMainData | out\_icollTransactionData |
| 6 | CloseEdge | Closes Edge browser If it’s open | in\_Config |  |
| 7 | LaunchOracleERP | Launches Oracle ERP applications | in\_Config |  |
| 8 | LoginOracleERP | Login to Oracle ERP applications | in\_config |  |
| 9 | SiteNotSecure | Handles Site not secure dialogues | in\_config |  |
| 10 | LoginPage | Login to Oracle ERP applications using given credentials and retries upon failure to login | in\_config |  |
| 11 | NavigateToTreasuryConfirmation | Navigates to Treasury Confirmation window | in\_config  in\_Responsibility |  |
| 12 | HandleSecurityWarnings | Handles Security warnings | in\_config |  |
| 13 | ReopenTCPNavigator | Treasury Confirmation window will be reopened by closing it | in\_config |  |
| 14 | GetTransactionData | Maps Transaction Data | in\_Config  in\_TransactionNumber  io\_dt\_TransactionData  io\_dt\_MainData  io\_MaxNumOfLoops | out\_TransactionID  out\_TransactionItem |
| 15 | GetNextItem | Check Transaction Number and move to next process | in\_Config  in\_TransactionNumber  io\_dt\_TransactionData  io\_dt\_MainData  io\_MaxNumOfLoops | out\_TransactionItem |
| 16 | GetPaymentInstructionsData | Assign variables with Transaction Item containing Payment Instructions | in\_dtMain  in\_Config  in\_TransactionItem | out\_MasterRow  out\_dtPaymentInstruction |
| 17 | TreasuryConfirmationAndReconciliation | Confirmation or Back out or Unconfirmed Process | in\_Config  in\_MasterRow  in\_dtMain  in\_dtPaymentInstruction | out\_strErrorLogMessage  out\_strStatusCheck  out\_strRequestNumber |
| 18 | ConfirmationOrBackOutProcess | Confirmation or Backout process | in\_Config  in\_MasterRow  in\_dtMain  in\_dtPaymentInstruction  in\_strPaymentInstruction  in\_strProcessType  in\_strAccomplishedDate  in\_strDateSentToTreasury  in\_strReferenceAssignedbyAdmin | out\_strRequestNumber  out\_strSingleRangeOrMultipleRangeOrBackedOutStatusCheck |
| 19 | ConfirmationProcess | Confirmation Process | in\_strPaymentInstruction  in\_strAccomplishedDate  in\_dtMain  in\_dtPaymentInstruction  in\_Config  in\_MasterRow | out\_strRequestNumber  out\_strSingleOrMultipleRangeStatusCheck |
| 20 | MultipleRange | Payment instructions with Multiple Range | in\_dtMain  in\_blnNoteDisplayed  in\_blnErrorAccountEntry  in\_dtPaymentInstruction  in\_Config | out\_strMultipleRangeRequestNumber  out\_strMultipleRangeStatusCheck |
| 21 | SingleRange | Payment Instructions with Single Range | in\_blnNoteDisplayed  in\_blnErrorAccountEntry  in\_MasterRow  in\_config | out\_strSingleRangeRequestNumber  out\_strSingleRangeStatusCheck |
| 22 | BackOutProcess | Payment Instructions with Back out | in\_strReferenceAssignedbyAdmin  in\_strDateSentToTreasury  in\_strAccomplishedDate  in\_strBackOutPaymentInstruction  in\_Config | out\_strBackOutRequestNumber  out\_strBackedOutStatusCheck |
| 23 | ValidatePaymentInstructions | Validates Payment instructions | in\_strReferenceAssignedbyAdmin  in\_strDateSentToTreasury  in\_strAccomplishedDate  in\_strValidatePaymentInstruction  in\_strRequestNumber  in\_Config | out\_strValidationStatusCheck  out\_strErrorLogMessage |
| 24 | ViewLogs | For Unconfirmed status retrieves log messages | in\_strRequestNumber  in\_Config | ut\_strErrorLogMessage |
| 25 | UpdateBotStatus | Final update of Bot Status, Bot Comments and Time Stamp | in\_dtMaindata  in\_Config  in\_BotStatus  in\_BotComments  in\_ColumnName  in\_ColumnValue  in\_strRequestNumber  in\_strStatusCheck |  |

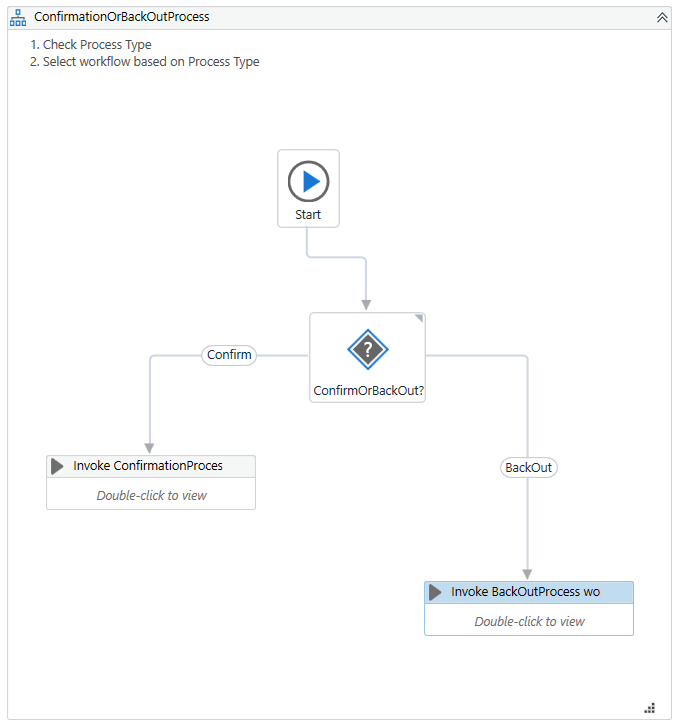
### LoginOracleERP Workflow – Flowchart

**

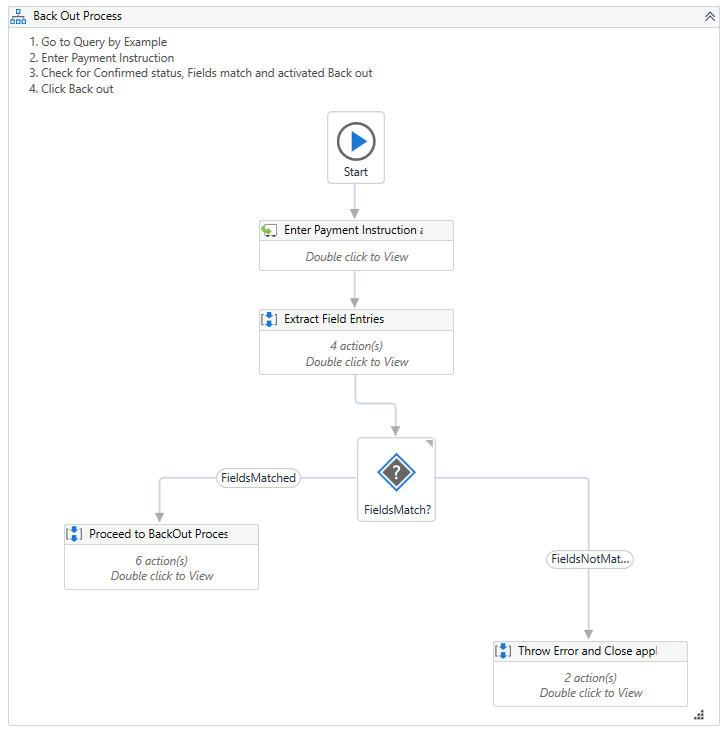
### TreasuryConfirmationAndReconciliation Workflow – Flowchart

**

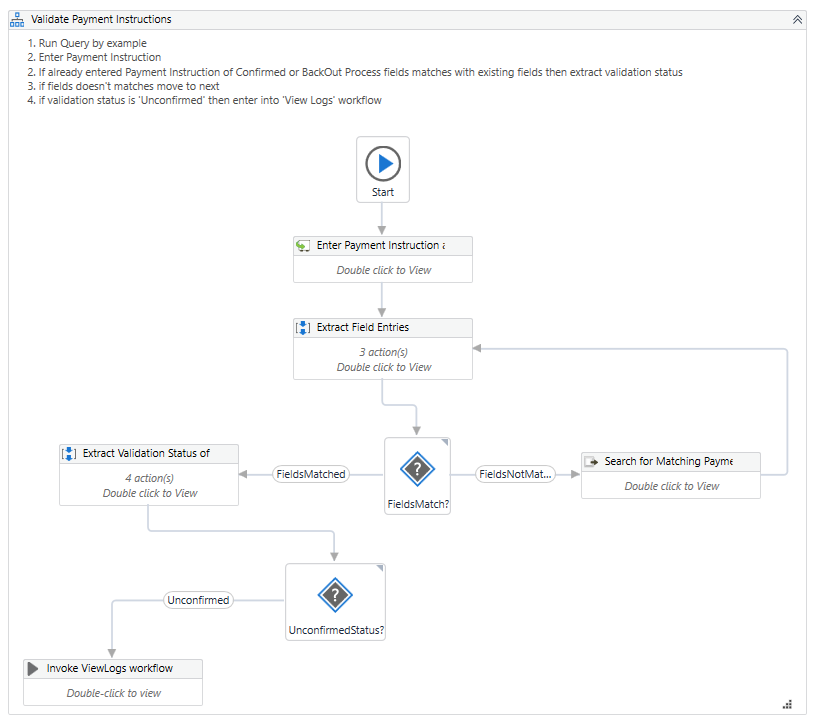
### ConfirmationOrBackOutProcess Workflow – Flowchart

**

### BackOutProcess Workflow – Flow chart

**

### ValidatePaymentInstructions Workflow – Flow chart

**

*\*Add more rows to the table to include all the workflow file names. No fields should be left empty. Use “n/a” for the items that don`t apply to your project.*

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

*\*\*Start the list with the one that will run by default when the package is executed.*

# Production Orchestrator Assets

If the value contains sensitive information, leave the value column empty.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Asset** | **Type** (Integer, Bool, Text, Credential) | **Value** (Leave empty if sensitive) |
| n/a |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Compliance Considerations

|  |  |
| --- | --- |
| **Item** | **Specific Considerations** (If a section does not apply please mark the field as “n/a”. No empty fields.) |
| n/a | n/a |
|  |  |
|  |  |
|  |  |
|  |  |

# Future Improvements

|  |  |
| --- | --- |
| **Improvement** | **Benefit/Reason** |
| TBD |  |

# Debugging Tips

|  |  |
| --- | --- |
| **Scenario/Error** | **Tip** |
| TBD |  |
|  |  |
|  |  |

# Post UAT Specifications

|  |  |
| --- | --- |
| **Item** | **Specification** |
| Average duration per transaction: (varies depending on the Test environment) | TBD |
| Recommended number of robots for the specified volumes | TBD |
| Schedule (when will this run) | Attended Automation – User will manually trigger the process from UiPath Assistant |

# Approvals

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Role** | **Name** | **Signature** |
| 07/02/2022 | Author | Hariharan Gouri, Rajesh Sudileti |  |
|  | Solution Architect | Sunil Melam |  |
|  | Process Owner | Anand Ravulapalli, Srinivas Dasari |  |
|  | RPA Program Manager | Sunil Melam |  |

# 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.

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.