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PayPowerBill\_Process

**Solution Design   
Document**



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# Purpose



Outlines the major components of the Master Project (the overall output of the development, containing one or multiple projects that together cover the scope of the robotic process automation) taking into account all the business restrictions (scheduling, peaks, future increases in volume etc.). The focus of the Solution Architect will be on:

* Robustness;
* Scalability;
* Efficiency;
* Replicability;
* Reusability of component

The information herein is targeted primarily at the developers that will initially implement the solution and subsequently at the support developers in case of change requests.

# Document History

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Version | Role | Name | Organization/ Department | Function | Comments |
|  | 1.0 | Author | Yash | Yash Technology | Developer | Initial Draft |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

# Automated process details

Details filled in need to reflect the actual information for the Master Project released for production. The following table will be populated:

|  |  |
| --- | --- |
| Item | Description |
| Project Name | PayPowerBill\_Process |
| Robot Type | BOR |
| Is Background process?  (No click like UI interaction) | Yes |
| Orchestrator used? | Yes |
| Scalable | No |
| UiPath version used | 23.8.0.0 |

# Runtime guide

## Architectural structure of the Master Project

Display the interaction between components (package / robots, Orchestrator queues, and running order) in a diagram

## Master Project Runtime Details

Outlines the details of the automated process by filling in the table below.

|  |  |
| --- | --- |
| ITEM NAME | DESCRIPTION  *Fill in each bolded section - empty fields are not allowed. If the section does not apply to your automation then mark as n/a.* |
| Production environment details | *HYDNGROUAT025* |
| Prerequisites to run | ***Access to Pay Power Bill App*** |
| Input Data | ***PDF Files with Installment Number*** |
| Expected output | ***Regenerated PDF Files with Transaction ID*** |
| How to start the automated process | ***Business Users can start the process anytime with UiPath Assistant*** |
| Reporting (queues reporting, Kibana, Excel or another platform) | ***NA*** |
| How is Orchestrator used? | ***App URL and Input File path are stored in asset*** |
| Password policies (mention any specific compliance requests) | ***NA*** |
|  |  |
| Stored credentials  (Never use hardcore credentials in the workflow!) | ***NA*** |
|  |  |
| List of queues names | ***NA*** |
| Schedule Details | ***NA*** |
| Multiple Resolutions Supported?  (in case of image automation / Citrix and VDI) | ***NA*** |
| Recommended Resolution | ***NA*** |
| Scalable | ***Example:*** *Yes* |
| Environment used for development  (name, location, configuration details etc) | ***DEV\_Env*** |
| Environment prerequisites  (OS details, libraries, required apps) | *Windows 7, Pay Power Bill app, Microsoft PDF* |
| Repository for project  (where is the developed project stored) | ***NA*** |
| Configuration method  (assets, excel file, Json file) | *Assets, Config File* |
| List of reused components | ***NA*** |
|

## Project(s) workflows

For the workflow files defined below please specify the input and output parameters.

|  |  |  |
| --- | --- | --- |
| Workflow file | Arguments | Description |
| DownloadingFiles | in\_TransactionData  in\_Config |  |
| FindBillType | in\_TransactionItem  in\_PayBill\_URL |  |
| GetValuesFromPDF | in\_TransactionItem  in\_Config |  |
| Main | in\_OrchestratorQueueName  in\_OrchestratorQueueFolder |  |
| CloseAllApplications |  |  |
| GetTransactionData | in\_TransactionNumber  in\_Config  out\_TransactionItem  out\_TransactionField1  out\_TransactionField2  out\_TransactionID  io\_arr\_TransactionData |  |
| InitAllApplications | in\_Config  in\_TransactionData  str\_PayBill\_URL |  |
| InitAllSettings | in\_ConfigFile  in\_ConfigSheets  out\_Config |  |
| KillAllProcesses |  |  |
| Process | in\_TransactionItem  in\_Config  in\_PayBill\_URL |  |
| RetryCurrentTransaction | in\_Config  io\_RetryNumber  io\_TransactionNumber  in\_SystemException  in\_QueueRetry |  |
| SetTransactionStatus | in\_BusinessException  in\_TransactionField1  in\_TransactionField2  in\_TransactionID  in\_SystemException  in\_Config  in\_TransactionItem  io\_RetryNumber  io\_TransactionNumber  io\_ConsecutiveSystemExceptions |  |
| TakeScreenshot | in\_Folder  io\_FilePath |  |
| GetTransactionDataTestCase |  |  |
| InitAllApplicationsTestCase |  |  |
| InitAllSettingsTestCase |  |  |
| MainTestCase |  |  |
| ProcessTestCase |  |  |
| WorkflowTestCaseTemplate |  |  |

## Packages

Include the list of packages and high-level description for each of them, to explain their purpose

|  |  |
| --- | --- |
| Package Name | Description |
| UiPath.Excel.Activities : [2.22.0-preview] |  |
| UiPath.PDF.Activities : [3.15.0-preview] |  |
| UiPath.System.Activities : [23.8.1-preview] |  |
| UiPath.Testing.Activities : [23.8.0-preview] |  |
| UiPath.UIAutomation.Activities : [23.6.2-preview] |  |

## Architectural structure of the Master Project

Display the interaction between components (package / robots, Orchestrator queues, and running order) in a diagram.

# Other Details

### Future Improvements

Fill in any improvements that need to be considered for the future:

***Example:***

*• Optimize the processing algorithm*

*• Implement process error recovery (retry)*

*• Enable support for multiple template files*

### Other Remarks

Please mention here any other points that you consider relevant for the automation process.

***Example:*** *The workflow should run every night at 7AM. Be careful not to schedule it before the report is generated by X system.*

The system generated data is always 1 day old.

# Glossary

The main terms used in the Solution Architecture Document are defined below:

**Master project** - the overall output of the development, containing one or multiple projects that together cover the scope of the robotic process automation. There is a 1 to 1 connection between the Master Project and the Process to be automated (As presented in the PDD).

**Project** - an 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. Or multiple projects can be converted into one package depending on the aims and restrictions of the automation. The project is used when defining the development and support phase of the automation.

**Package** - the output of compiling one or multiple projects. 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.