Life Cycle of

1. **Intake**

RPA Solution Architect & Leads will discuss with Business (Client)

1. **Planning**

RPA Lead

1. **Designing**
   1. Creation of PDD (Process Definition Document ) – RPA Business Analyst & Client
      1. High Level process
      2. High Level Process flow diagram
      3. Applications involved, Access Roles, Access POC
      4. Exceptions
      5. Special
      6. Bot Scheduling
      7. Stake Holders
   2. Review the PDD (RPA Developer)
      1. PDD Review Doc (Excel – S.no, PDD Query, Raised By, Clarified By, Comments)
   3. Solution Design Document
      1. Low Level Process Flow (To- Be Processed)
      2. Environment
      3. Input
      4. Output
      5. Logging
      6. Monitor
      7. Alerting
      8. Stakeholder
      9. High level Test cases

SDD & Test Cases should be signed-off by business to proceed with development

<<Requirement Freeze>>

1. **Development**
2. Unit Testing & Integration Testing

<Code Review>

1. UAT Testing

UAT-Sign Off

1. Production Deployment
2. Production Dry Runs
3. Hyper Care
4. Live
5. Reporting

Sequence – Step 1, Step2, Step----Step n

Flowchart -   
State Machine – Entry, Condition, Triggers

Variable – Scope of the variable is to workflow

Most Common Variable Types –

String – Word - “”

Int32 – Numbers

Double – decimal numbers

Boolean – True or False

Array (String/Int/Boolean…etc) = {“”,””,””,””}

Object = Store any kind

DataTable

Dictionary

MailMessage

JObject

XDocument

Scope :

Assigning – Assign/Multiple Assign

Creation : Create it from variables / Ctrl +k

If  
  
Condition = Result will be boolen

If Satisfied (True) - Then Block

Not Satisfied (False) - Else Block

Loops

1. Repeat Number of Times

Array, Data Table, Excel Column, Emails,

1. For Each
2. While & Do While
   1. While – Repeat the loop until condition fails
   2. Do While – execute the loop and then check the condition

Break -   
Continue -

Step1, Step 2 , Step 3, Break/Continue , Step 4 , step 5

Switch  
  
Case 1

Case 2

Case n

Default

Attended BOT:

An active user interaction is required

1. Generate report and send to required person

Un-Attended BOT:

3 Type of Arguments

Calling Task 1 & Called Task 2

1. In Argument
2. Out Argument
3. InOut Argument\

Data Table:

Variable : Single -

Array : Bunch of Data – Loop or Index

Array(0), Array(2)

DataTable : Table (Excel, Database)

Rows & Columns

Employee Data Table

Name : employeeData

Data Type: DataTable

Data:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **0** | **1** | **2** | **3** | **4** | **5** |
|  | **ID** | **FName** | **LName** | **Company** | **Designation** | **Address** |
| 0 | 101 (0)(0) | Shiva  (0)(1) | K  (0)(2) | TCS  (0)(3) | System Analyst  (0)(4) | Chennai  (0)(5) |
| 1 | 102 | Ram | S | Verizon | Software Developer | Hyderabad |
| 2 | 103 | Krishna | P | CTS | Software Architect | Mumbai |
| 3 | 104 | Ravi | R | Infosys | System Analyst | Hyderabad |

Rows : DataRow

Count : employeeData.Rows.count = 4

Fetch Data :

employeeData.Rows(0)(“LName”).ToString = “K”

employeeData.Rows(0)(2).ToString=”K”

Loop Through

ForEachRowinDataTable : CurrentRow

CurrentRow(0)/CurrentRow(“ID”) = 101/102/103/104

Main = 10

Add = 5

Loop Main - > Temp Data

|  |  |
| --- | --- |
| ID | FName |
| 101 | Shiva |
| 102 | Ram |

|  |  |
| --- | --- |
| ID | LName |
| 101 | K |
| 103 | S |

Inner

|  |  |  |  |
| --- | --- | --- | --- |
| ID | FName | ID | LName |
| 101 | Shiva | 101 | K |
|  |  |  |  |

Left

|  |  |  |  |
| --- | --- | --- | --- |
| ID | FName | ID | LName |
| 101 | Shiva | 101 | K |
| 102 | Ram |  |  |

Full

|  |  |  |  |
| --- | --- | --- | --- |
| ID | FName | ID | LName |
| 101 | Shiva | 101 | K |
| 102 | Ram |  |  |
|  |  | 103 | S |

UI Automation:

**Desktop Application Automation** (Note pad, Calculator, UiPath Studio, Git Hub Desktop, Chrome, Edge)

**Web Application Automation** –

1. Recording – Process is same
2. Manual UI Automation

Use Application/Browser

Properties

Open : Always/If Not Open/Never

Close : Always/If Opened by App Browser / Never

Wild Cards in UiPath Selectors

\*(Star) is to replace more than 1 char

? is to replace 1 character

Email Automation

1. BOT Input
2. BOT Output

Web Based Email

Outlook – Application based

Server : Verizon.smtp.com

SMTP – Server & Port Number & Auth

IMAP – Server & Port Number & Auth

POP3

SMTP – Send Email

IMAP – Read Email & Move Email (Folder)

POP3 – Read Email

Outlook Email

1. BOT Need to open notepad and Read Data
2. BOT need to make API call and get other data
3. BOT Need to Display some information

Exception Handling

1. Business Rule Exception – Instead Add they gave Ads
2. System Exception –

Types

100+

Exception -> Generic

IOException ->

ArgumentException

FileNOtFound Exception

NullPointer Exception

Try Catch Activity

* Try Block – 1 Block - Actual BOT Code
* Catch Block – 1 or More (Min 1) – Catch the exceptions occurred in Try Block
* Finally Block – 1 Block – This will be excecuted even though there is error or not

Try

Step1 , Step 2, Step 3 , Step 4, Step 5

Catch1 – Null Pointer

Catch2 – FileNotFound

Catch3 – Generic

Finally

API ->

Server to and from Client

Server (API Calls)

Client (Chrome/UiPath/Powersheel/Python/Java)

* Application URL? https://GetWorkFromShiva.com
* Method – GET / PUT/ UPDATE / POST / DELETE / FETCH
* Request Parameters
* Request Headers – Username & Password
* Request Body -
* Response code – 200/300/400/404/500
* Response Body – {Your password is incorrect}
  + {You are successfully authenticated}

API -> [www.Shiva.com/GetProductDetails](http://www.Shiva.com/GetProductDetails)

Headers :

Authorization : Session Token

Parmeters:

Product Name : TV

Body :

API – [Www.shiva.com/getAuthToken](http://Www.shiva.com/getAuthToken)

Headers :

Username : xxxxxx

Password : xxxx

Parameter :

Body:

Resp : Token

JSON

{

“SchoolName” : “Aditya”,

“SchoolLocation” : “Hyderabad”,

“StudentsCount” : 20,

“Students” : [

{

“id” : 101,

“Name” : “Shiva”,

“Class” : 10

},

{

“id” : 102,

“Name” : “Ram”,

“Class” : 8

},

{

“id” : 103,

“Name” : “Krishna”,

“Class” : 7

}

],

“Teachers” :

{

“Maths” : “Ravi Sir”,

“Telugu” : “Pooja Mam”,

“English” : “Praveen Sir”

}

}

XML

<School>

<SchoolName> Aditya </SchoolName>

<SchoolLocation>Hyderabad</SchoolLocation>

<Students>

<student>

<id>101</id>

<Name>Shiva</Name>

</student>

<student>

<id>102</id>

<Name>Ram</Name>

</student>

<student>

<id>103</id>

<Name>Krishna</Name>

</student>

</Students>

<Teachers>

<Maths>Ravi Sir</Maths>

<Telugu>Pooja Mam</Telugu>

<English>Praveen Sir</English>

</School>