Process Cloud

Technical Reference

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Workplains Pvt Ltd

Bilal Manzoor

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Document History

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| --- | --- | --- | --- | --- |
|  | Author | Version | Date | Updates |
| 1 | Bilal Manzoor | 0.11 | June 2011 | Working on Process Builder Properties |
| 2 | Bilal Manzoor | 0.12 | July 21, 2011 | Class Functions for OC, Server and Maps.  Events and Conditions |
| 3 | Bilal Manzoor | 0.13 | July 22, 2011 | Named constants for Maps, Variables, OC, Activity and Process |
| 4 | Bilal Manzoor | 0.135 | July 23, 2011 | Database Structure |
| 5 | Bilal Manzoor | 0.14 | July 25, 2011 | Client Runtime functions, Object definitions |
| 6 | Bilal Manzoor | 0.15 | August 05, 2011 | Form Builder Control  Design tables for Forms   * D\_ProcessForms * D\_ProcessFormControls |
| 7 | Bilal Manzoor | 0.16 | August 06, 2011 | Configuration tables for Email Notifications   * EmailPOPSettings * EmailSMTPSettings   Configuration Application Pages  Agents Training Page |
| 8 | Bilal Manzoor | 0.17 | August 08, 2011 | OC / Process Builder Methods  Changes in O\_User table   * Designation * Rights   Changes in O\_Group table   * Rights   Change in O\_Chart table   * ChartXML   Change in D\_Process table   * ProcessXML   Master Configuration tables   * MC\_Product * MC\_ProductRights * MC\_Enumerations   Web Service Agent Training  Application Layout, Tabs and Sub-Tabs |
| 9 | Bilal Manzoor | 0.18 | August 24, 2011 | Administrator Pages |
| 10 | Bilal Manzoor | 0.19 | August 28, 2011 | Master Administration  Form Builder |
| 11 | Bilal Manzoor | 0.20 | September 12, 2011 | Activity Node |
| 12 | Bilal Manzoor | 0.21 | September 21, 2011 | Database changes  Engine Pseudo code |
| 13 | Bilal Manzoor | 0.22 | September 28, 2011 | Engine Flowchart. Tables update and some changes in Engine Pseudo Code. |
| 14 | Bilal Manzoor | 0.23 | September 29, 2011 | Changes in database tables:   * S\_IncidentSignatures * S\_IncidentAttachments * S\_IncidentNotes * E\_IncidentSignatures * E\_IncidentAttachments * E\_IncidentNotes * D\_Projects * D\_ProjectTasks * D\_ProjectProcesses * D\_ProjectFolllowers * D\_ProjectFeeds * D\_ProjectTaskFollowers * D\_ProjectTaskFeeds * E\_TaskFollowers * E\_TaskFeeds |
| 15 | Bilal Manzoor | 0.24 | December 7, 2011 | Events, Conditions and Keywords |
| 16 | Tahira / Bilal | 0.25 | December 8, 2011 | Database Structure updated (changes from developer’s database) |

1. Class Definitions

*Note:*

* *Postfix “Info” means object like UserInfo is the object of User Class*
* *[] means array or list like UserInfo[] is the array of User objects*
* *Define objects using database tables*
* *Each table field will be used as property and Get/Set functions will be used to get and set values*
* *Get<<ObjectName>> will return whole object like GetUser or GetActivity*

Other then basic Get/Set methods following methods will be developed for containing business logic.

# Organization Chart

|  |  |  |  |
| --- | --- | --- | --- |
|  | Method | In Parameters | Return Value |
|  | AuthenticateUser | UserName  Password | Boolean |
|  | GetSupervisor | UserID | SupervisorID |
|  | GetManager | UserID | ManagerID |
|  | DoesUserExist | UserID | boolean |
|  | GetFullName | UserID | FullName |
|  | GetSubordinates | UserID | Subordinates[] |
|  | GetSiblings | UserID | Siblings[] |
|  | GetContactNo | UserID | ContactNo |
|  | CreateGroup | GroupName  GroupType | Boolean |
|  | InsertGroupMember | GroupName  UserID  SequenceNo | Boolean |
|  | DeleteGroup | GroupName | Boolean |
|  | RenameGroup | OldName  NewName | Boolean |
|  | GetGroupMembers | GroupName | GroupMembers[] |
|  | CreateOC | Workspace  OCName  ParentChart | Boolean |
|  | AddDesignationGroup | GroupID  Designation  OCID  SupervisorID  Email  Contact | Boolean |
|  | AddDesignationGroupUsers | GroupID  UserID | Boolean |
|  | SetUserRights | UserID  Rights | Boolean |
|  | GetUserRights | UserID | Rights |
|  | GetGroupRights | GroupID | Rights |
|  | GetOCUsers | OCID | Users[] |
|  | GetJobTitleGroupUsers | OCID  GroupID | Users[] |
|  | GetManager | OCID | ManagerID |
|  | GetNextGroupUser | OCID  GroupID | UserID |
|  | GetSiblings | UserID | Users[] |
|  | GetGroups | OCID | GroupNames[] |
|  | GetGroupName | GroupID | GroupName |
|  | GetOCNames | OCID | OCName[] |
|  | GetOCs | WorkspaceID | OCInfo[] |
|  | DoesUserExist | UserID | Boolean |
|  | DoesGroupExist | GroupID | Boolean |
|  | DoesOCExist | OCID | Boolean |
|  |  |  |  |
|  |  |  |  |

# Engine

|  |  |  |  |
| --- | --- | --- | --- |
|  | Method | In Parameters | Return Value |
|  | UpdateVariables | Process  Version  Incident  Variables[] | Bool |
|  | SetVariableValueAt | Process  Version  Incident  VariableName  Row  Col  Value |  |
|  | GetVariableValueAt | Process  Version  Incident  VariableName  Row  Col | Value |
|  | SetVariableValue | Process  Version  Incident  VariableName  Value[][] |  |
|  | GetVariableValue | Process  Version  Incident  VariableName | Value[][] |
|  | PublishProcess | WorkspaceID  ProcessID  DatabaseName | VersionNo |
|  | RemoveProcess | ProcessID  VersionNo | Boolean |
|  | DisableProcess | ProcessID  VersionNo | Boolean |
|  | ExecuteAgent |  |  |
|  | GetListofExclusionDays |  | Days[] |
|  | RemoveIncident | ProcessID  VersionNo  IncidentNo |  |
|  | GetAcitivityInfo | ProcessID  VersionNo  ActivityID | ActivityInfo Object |
|  | GetProcessInfo | ProcessID  VersionNo | ProcessInfo Object |
|  | GetUserInfo | UserID | UserInfo |
|  | DoActivityComplete | ProcessID  VersionNo  IncidentNo  TaskID  Action | Boolean |
|  | DoActivityEvents | ProcessID  VersionNo  IncidentNo  ActivityID  TaskID | Boolean |
|  | ExecuteExpression | Expression | Boolean |
|  | DoEventAction | ActionType  Target | Boolean |
|  | ActivateActivity | ProcessID  VersionNo  IncidentNo  NewActivityID  ParentActivityID | Boolean |
|  | TerminateActivity | ProcessID  VersionNo  IncidentNo  NewActivityID  ParentActivityID | Boolean |
|  | LaunchProcessIncidentActivity | ProcessID  VersionNo  Parmeters[] | Boolean |
|  | GetAllLinkedActivites | ProcessID  VersionNo  IncidentNo  ActivityID | ActivityIDs[] |
|  | IsEndofIncident | ProcessID  VersionNo  IncidentNo | Boolean |
|  | Maintenance Functions |  |  |
|  | CheckQueue |  |  |
|  | CheckPeriodicLaunch |  |  |
|  | CheckStuck |  |  |
|  | CheckDelayActivities |  |  |
|  | CheckLate |  |  |
|  | CheckAllocations |  |  |
|  | LaunchProcessViaEmail | MessageBody | Boolean |
|  | AssignTask | UserID  NewUserID  AssignMode  Unitl  ProcessID  IncidentNo  TaskID  FromUserID |  |
|  | DoActivityReturn | ProcessID  VersionNo  IncidentNo  TaskID  Action | Boolean |
|  | TerminateIncident | ProcessID  VersionNo  IncidentNo | Boolean |
|  | RestartIncident | ProcessID  VersionNo  IncidentNo | Boolean |
|  | DoNotifications | ProcessID  VersionNo  IncidentNo | Boolean |
|  | GetAllocatedUser | TaskID | UserID |
|  | HasActivityCompleted | ProcessID  VersionNo  IncidentNo  ActivityId | UserID |
|  | StartNewIncident | ProcessID  VersionNo | IncidentNo |
|  | ActivateActivity | ProcessID  VersionNo  IncidentNo  ActivityId | UserID |
|  | GetRecipientForActivity | ProcessID  VersionNo  IncidentNo  ActivityId | UserIDs[] |
|  | GetCanActivityActivate | ProcessID  VersionNo  IncidentNo  ActivityId | Boolean |
|  | GetQueueTask | UserID | TaskID |
|  | TerminateActivity | ProcessID  VersionNo  IncidentNo  ActivityId |  |
|  | ComposeNotification |  |  |
|  | ExecuteAgentActivity | ProcessID  VersionNo  IncidentNo  ActivityID | Boolean |
|  | DoEmailProcessLaunch | ProcessID  VersionNo |  |
|  | DoEmailSumission | ProcessID  VersionNo  IncidentNo |  |
|  | GetActivityIsLate | ProcessID  VersionNo  IncidentNo  ActivityID | Boolean |
|  | LicenseCheck |  | Boolean |
|  | IsIncidentActive | ProcessID  VersionNo  IncidentNo |  |
|  | GetIncidentStatus | ProcessID  VersionNo  IncidentNo | TaskInfo[] |
|  | GetIncidentTrack | ProcessID  VersionNo  IncidentNo | TaskInfo[] |

# Process Map

|  |  |  |  |
| --- | --- | --- | --- |
|  | Method | In Parameters | Return Value |
|  | GetAcitivityLinks | ActivityID | ActivityLinkInfo[] |
|  | GetProcessVariables | ProcessID | Variable[] |
|  | GetProcessActivityNames | ProcessID | ActivityNames[] |
|  | CreateSystemVariables | ProcessID | Bool |
|  | CreateSignatureVariable | ProcessID  VariableName | Bool |
|  | CreateAttachmentVariable | ProcessID  VariableName | Bool |

# Client/Form

|  |  |  |  |
| --- | --- | --- | --- |
|  | Method | In Parameters | Return Value |
|  | GetUser | UserID | UserInfo object |
|  | AuthenticateUser | UserName, Password | SessionID |
|  | Login | UserID | Boolean |
|  | GetTasks | UserID,ProfileID | TaskInfo[] |
|  | GetProcessStatus | ProcessID | StatusType |
|  | GetActivityStatus | ActivityID | StatusType |
|  | GetAllActivities | ProcessID, IncidentID | ActivityNames[] |
|  | GetProcess | ProcessID | ProcessInfo[] |
|  | GetActivity | ProcessID, ActivityID | ActivityInfo[] |
|  | GetIncidentStatus | ProcessID, IncidentNo | StatusType |
|  | GetVariable | ProcessID, IncidentNo,  VariableName | VariableInfo |
|  | GetVariables | ProcessID, IncidentNo | VariableInfo [] |
|  | GetVariableValue | ProcessID, IncidentNo,  VariableName | Value |
|  | SetVariableValue | ProcessID, IncidentNo,  VariableName,  Value |  |
|  | SetVariableValue | ProcessID, IncidentNo,  VariableName,  Value,  Row,  Col |  |
|  | OpenTaskForSubmit | ProcessID, IncidentNo,  TaskID, | SubmitSessionID |
|  | SubmitTask | SubmitSessionID | Boolean |
|  | GetLicenseInfo | UserId | LicenseInfo |
|  | SetTasksInfoViaMail | UserID |  |

2. Enumerations & named constants

Define these named constants in database also.

# Process

|  |  |
| --- | --- |
| Launch Types | 1. By Client 2. Every Sunday 3. Every Monday 4. Every Tuesday 5. Every Wednesday 6. Every Thursday 7. Every Friday 8. Every Saturday 9. First day of every month 10. Last day of every month 11. Day of month (need to specify day) 12. Every day at (need to specify time) 13. Every hour 14. Sub Process only |
| Predefined Notifications | 1. Activity Failed 2. Completion Time Expired 3. Incident Stuck 4. Incident Time Limit Reached 5. Invalid Activity User 6. Late Activity 7. Minimum Response 8. New Process Published 9. New Task 10. Terminate Activity 11. Terminate Incident |
| Process Events Types | 1. Process Lunched 2. Any Task Opened 3. Any Task Activated 4. Any Task Submitted 5. Process Completed 6. Time Limit Reached |
| Process Event Actions | 1. Activate Activity 2. Terminate Activity 3. Auto Complete Activity 4. Terminate Incident 5. Restart Incident 6. Send Notification 7. Trigger Process |
| Process Event Key Words | 1. ACTIVITY\_ACTIVE 2. ACTIVITY\_COMPLETED 3. ACTIVITY\_TERMINATED 4. ACTIVITY\_DELAYED 5. ACTIVITY\_INQUEUE |

# Activity

|  |  |
| --- | --- |
| Activity Types | 1. User 2. Adaptor 3. Decision 4. Delay 5. Sub Process |
| Recipient Type | 1. User 2. Job Title 3. Group 4. Queue 5. Initiator 6. Supervisor of Initiator 7. Manager of Initiator 8. Variable 9. Supervisor Variable 10. Manager Variable 11. Weighted Group 12. Sequential Group 13. User Previous Activity 14. Supervisor Previous Activity 15. Manager Previous Activity 16. Organization Chart 17. Adaptor – XML Web Service 18. Adaptor – Notification 19. Adaptor – Spreadsheet 20. Adaptor – Document |
| Form Type | 1. Standard 2. Microsoft .NET |
| Activity Event Types | 1. Task Activated 2. Task Opened 3. Task Completed 4. Task Late 5. Task Returned 6. Task Resubmitted 7. Task Reactiviated |
| Activity Event Actions | 1. Activate Activity 2. Terminate Activity 3. Auto Complete Activity 4. Terminate Incident 5. Restart Incident 6. Send Notification 7. Trigger Process |
|  |  |

# Variables

|  |  |
| --- | --- |
| Variable Type | 1. Boolean 2. Text 3. Number 4. Date 5. Table 6. FormSignature 7. FormAttachment 8. SYSTEM\_VARIABLE (only for internal use) |
| System Variables Types | 1. Process Name 2. Priority 3. Initiator 4. Process Version 5. Incident Summary 6. Incident Timestamp Notes 7. Incident Number 8. User Name 9. User Full Name 10. User Designation 11. User Organization Chart 12. User Supervisor 13. User Manager |

# Organization Chart

|  |  |
| --- | --- |
| Group Member Types | 1. User Group 2. Job Title Group 3. Group 4. Organization Chart |

# Workspace

|  |  |
| --- | --- |
| Custom Attribute Types | 1. Workspace Attribute 2. Project Attribute 3. Activity Attribute 4. Variable Attribute 5. Organization Chart Attribute 6. User Attribute 7. Group Attribute 8. Group Member Attribute 9. Project Attribute |

# Execution

|  |  |
| --- | --- |
| Incident Status | 1. Active 2. Terminated 3. Completed (Normal) |
|  | 1. Completed with Errors 2. Processing (Locked) |
| Process Status | 1. Published 2. Disabled |
| Task Status | 1. Active 2. Terminated 3. Completed (Normal) 4. Completed with Error 5. Returned 6. Failed 7. Processing (Locked) 8. Mark for Discuss 9. Collaborate |
| Task Priorities | 1. Low 2. Medium 3. High |
| Task Delay Status | 1. Normal 2. Delay 3. Late |
| Notification Types | 1. Process Messages 2. Adaptor Message |
| Notification Status Types | 1. Ready to deliver 2. Sent 3. Failed |

# Customer

|  |  |
| --- | --- |
| Customer Notification Types | 1. Transaction Receipt Generation 2. Account Expiry Alert 3. Demo Account Expiry Alert 4. Monthly Usage Report 5. Account Expired 6. Demo Account Expired 7. Package Changed 8. Account Limit Alert |
| Customer Notification Status Types | 1. Ready to deliver 2. Sent 3. Failed |
| Customer Account Packages Types | 1. On Demand 2. Managed 3. On Premises 4. Customized |
| Maintained By Type | 1. Workplains 2. Customer 3. Service Provider |
| Customer Account Status | 1. Demo Account 2. Active 3. Under Grace Period 4. Expired 5. Closed 6. Blocked 7. Disabled |
| Customer Record Status | 1. Archived 2. Fresh |
|  |  |

# Projects and Tasks

3. Process Builder (Properties)

# 1. Modes

1. Edit – Process Builder
2. View Only
3. Progress / Status Mode for monitoring
4. Reporting

# 2. Nodes / Links Types (using BPMN standards for mapping)

* 1. Start (By Default)
  2. End (By Default)
  3. Activity
     1. Human
     2. Adaptors (Agents)
  4. Decision
  5. Links
     1. Always single headed arrow either straight, elbow or curve

# 3. Properties

3.1. Process Properties:

Process properties will be shown on clicking the blank area of the map or start activity node. Following are the list of process properties:

|  |  |
| --- | --- |
| **General** | |
| Process Name | Unique Project name |
| Workspace Name | Select from list |
| Project Name | Select from list |
| Description |  |
| Process Owner | Select from list |
| Process Designer | Auto |
| Help URL |  |
| Swimlanes | <<numbers>> |
| Version |  |
| **Runtime Settings** | |
| Duration to complete |  |
| Process Unit | Hours/Days/Mins |
| Start |  |
| End |  |
| **Launch Settings** | |
| Launch Type | By Client (Default) |
| Date |  |
| Year |  |
| Month |  |
| Day |  |
| Time |  |
| Skip |  |
| Duration |  |
| Start Incident |  |
| **Notifications** | |
| Notifications Templates | <<Browse Popup for notifications>> |

|  |  |
| --- | --- |
| **Variables** | |
| Variable Name | Unique Variable Name |
| Type | Text, Number, Date, Table |
| Rows |  |
| Columns |  |
| Default Value |  |
| Values | Browse Popup to show grid for default values |

|  |  |
| --- | --- |
| **Process Events** | |
| Process Event | 1.Process Lunched  2. Task Opened  3. Task Submitted  4. Process Completed |
| Action | 1. Activate Activity  2. Terminate Activity  3. Auto Complete Activity  4. Terminate Incident  5. Restart Incident  6. Send Notification |
| Target | <<Activity Name>> |
| **Conditions** | |
| Expression Builder | 1. Logical Operator And, Or  2. Operand 1 – Variables, System Variables  3. Operators  4. Operand 2 – Values, System Values |

3.2. Activity Properties:

Activity properties will be shown on clicking the activity node from the map. Following are the list of activity properties:

|  |  |
| --- | --- |
| **General** | |
| Activity Name | Unique Activity name |
| Description |  |
| Recipient Type | 1. User 2. Job Title 3. Group 4. Queue 5. Department 6. Initiator of Process 7. Supervisor of Initiator 8. Manager of Initiator 9. Variable 10. Supervisor Variable 11. Manager Variable 12. Supervisor Previous Activity 13. Manager Previous Activity 14. Agents Document, Email |
| Node Types | 1. Start 2. End 3. Decision 4. User 5. Agent 6. Sub Process 7. Delay 8. Arrow 9. Label |
| Minimum Response | <<for groups and Departments>> |
| Recipient | Browse from Recipient on type |
| Help URL |  |
| **Activity Form** | |
| Form Type | Standard | .NET |
| Form URL |  |
| Authentication Username | <<Variable>> |
| Authentication Password | <<Variable>> |
| **Runtime Settings** | |
| Completion Time |  |
| Extension Time |  |
| Delay Time |  |
| Private |  |
| Non-Assignable |  |
| Allow Resubmit |  |

|  |  |
| --- | --- |
| **Activity Events** | |
| Activity Event | 1. Task Activated  2. Task Opened  3. Task Completed  4. Task Late  5. Task Returned  6. Task Resubmitted  7. Task Reactiviated |
| Action | 1. Activate Activity  2. Terminate Activity  3. Auto Complete Activity  4. Terminate Incident  5. Restart Incident  6. Send Notification |
| Target | <<Activity Name>> |
| **Conditions** | |
| Expression Builder | 1. Logical Operator And, Or  2. Operand 1 – Variables, System Variables  3. Operators  4. Operand 2 – Values, System Values |

## 3.3. Decision Node Properties

|  |  |
| --- | --- |
| **General** | |
| Decision Name | Unique Decision name |
| **Runtime Settings** | |
| Completion Time |  |
| Extension Time |  |
| Delay Time |  |

|  |  |
| --- | --- |
| **Decision Events** | |
| Decision Event | 1. Task Activated  2. Task Completed  3. Task Late  4. Task Reactivated |
| Action | 1. Activate Activity  2. Terminate Activity  3. Auto Complete Activity  4. Terminate Incident  5. Restart Incident  6. Send Notification |
| Target | <<Activity Name>> |
| **Conditions** | |
| Expression Builder | 1. Logical Operator And, Or  2. Operand 1 – Variables, System Variables  3. Operators  4. Operand 2 – Values, System Values |

## 3.4. Links Properties

|  |  |
| --- | --- |
| **General** | |
| Caption |  |
| Style | Straight | Elbow | Curve |
| Line Width |  |
| Color |  |

## 3.5. Swimlane Properties

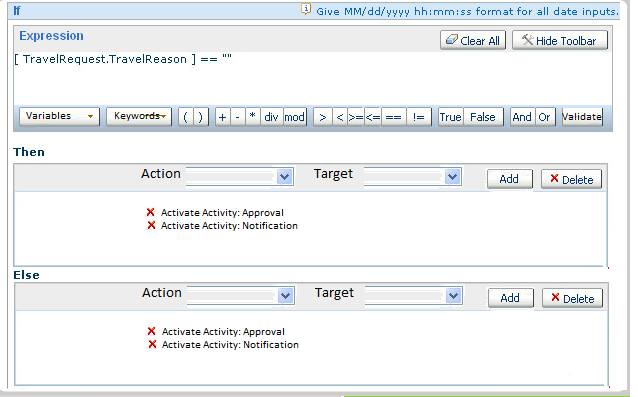
|  |  |
| --- | --- |
| **General** | |
| Caption |  |
| Color |  |

# How to define Events and Conditions

## Events

Select an Event from the Drop down list

## Condition



For every activity (other than Start and End), create value with name STATUS\_*ACTIVTYNAME.* Where ACTIVITYNAME is the name of activity. E.g. STATUS\_Approval. Show these variables in Variables drop down list.

Keyword drop down list will contain these key words: (See Enums for detail)

* ACTIVITY\_ACTIVE
* ACTIVITY\_COMPLETED
* ACTIVITY\_TERMINATED
* ACTIVITY\_DELAYED
* ACTIVITY\_INQUEUE

Three tables will use to store information (see table structure for more detail)

* D\_ActivityEvent
* D\_ActivityCondition
* D\_ActivityAction

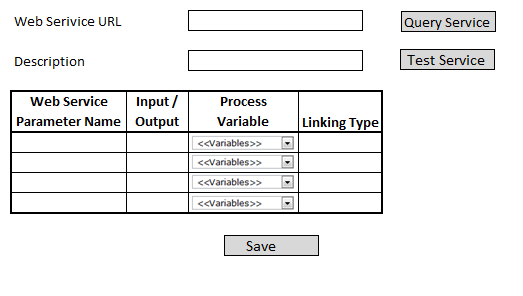
Same will be applied for Process Events

# Agents Training

## Document & Email Agent

# 

## Web Service Agent

4. Form Runtime Control (Properties)

Form run time control will be used in both Basic Forms and .NET forms.

# Toolbar

|  |  |
| --- | --- |
| **Button** | **Description** |
| Submit | To send and submit task |
| Save | To Save task for later use |
| Discuss | To send form for discussion |
| Assign To | To Assign Task |
| Return | To return task |
| Documents/Attachments | To open attached documents popup |
| Notes | To view and add timestamp remarks |
| Help | To view task help page |
| **Labels/Links** |  |
| User Name link | Show Full name of the current user. Click to view more detail. |
| Process Name | Show Process Name |
| Incident Number | Show current incident number. On click to view incident status. |
| Activity Name | Show current activity name |
| Signatures | List of signatures with date time stamp |

# Methods

|  |  |  |  |
| --- | --- | --- | --- |
| **Methods** | **Paramters** | **Return** | **Description** |
| InitForm (Constructor) | TaskID  Process Name  Version No  IncidentNo  bpmConnectionString  simConnectionString  Mode |  | Mode:  Simulation  Live |
| InitTask | TaskId  IncidentNo | SessionID |  |
| SubmitTask | SessionID  TaskID  SubmitType |  |  |
| GetVariablesList | ProcessName  VersionNo | VariableInfo[] |  |
| GetVariables | PrcocessName  IncidentNo | VariableInfo[] |  |
| SetVariables | SessionID  VariableInfo[] |  |  |
| SetNotes | Notes  UserName  DateTime |  |  |
| GetNotes | ProcessName  IncidentNo | NotesString |  |
| GetAttachments | ProcessName  IncidentNo | AttachmentInfo[] |  |
| SetAttachment | FilePath  Description | ErrorCode |  |
| GetVariable | ProcessName  IncidentNo  VariableName | VariableInfo |  |
| SetVariable | ProcessName  IncidentNo  VariableName  VariableInfo |  |  |
| GetVariableAt | ProcessName  IncidentNo  VariableName  Row  Col | Value |  |
| SetVariableAt | ProcessName  IncidentNo  VariableName  Row  Col  Value |  |  |
| GetVariableValue | ProcessName  IncidentNo  VariableName | Value |  |
| SetVariableValue | ProcessName  IncidentNo  VariableName  Value |  |  |
| SaveTask | SessionID |  |  |

# Properties

(for each property Get/Set method will be written)

|  |  |  |
| --- | --- | --- |
| **Property** | **Values** | **Description** |
| Show Form Toolbar | Yes|No |  |
| Show Send Button | Yes|No |  |
| Show Save Button | Yes|No |  |
| Show Return Button | Yes|No |  |
| Show Attachment Button | Yes|No |  |
| Show Notes Button | Yes|No |  |
| Show Signature Button | Yes|No |  |
| Show Help Button | Yes | No |  |
| CSS Path |  | CSS Path for form toolbar |
| Show Toolbar at | Bottom of the page |  Top of the page |  |
| Help Path |  |  |
| Attachment path |  |  |
| Buttons Style | Link | Push Button |  |

# Form Design Time

|  |  |
| --- | --- |
| **Form Control** | **Description** |
| FormID | Show attached documents |
| SourceVariable | Show list of signature on form |
| DestinationVariable |  |
| ReadOnly | Yes|No|Variable |
| Enable | Yes|No|Variable |
| Visible | Yes|No|Variable |

# Popup Windows

|  |  |
| --- | --- |
| **Window** | **Description** |
| Attachments | Show attached documents |
| Signatures | Show list of signature on form |
| Notes | Show history of notes |
| Help | Show form help |
| Assign Task | List of users to assign task |
| Discuss Task | List of users to discuss current task |

5. Configuration (Setting Pages)

# Workspaces (For Master Administrator)

* Toolbar
  + New Workspace
  + Disable
  + Remove
* BPM Administrator
  + Users
  + BPM Database Settings
* Workspace
  + Database
    - Name
    - Workspace Database
  + Customer Information
    - Company Name
    - OfficialAddress1
    - OfficialAddress2
    - City
    - State
    - Country
    - Zip Code
    - Contact Person Name
    - Contact Person Email
    - Contact Person Phone No
    - Official Phone No1
    - Official Phone No2
  + Package
    - Package Type
    - Deployed At Type
    - Maintained By Type
    - Number Of Designer Users
    - Number Of Administrator Users
    - Number Of Report Users
    - Form Builder Access
    - Web Service Access
    - Process Repository
    - Simulation Access
    - Number Of End Users
    - Email Process Launch
    - Number Of Transactions Per Day
    - Account Status Type
    - Activation Date
    - Expiry Date
    - Grace Period
    - Renewal Due Date
    - Sales Person Name
    - Sales Person Contact No
    - Sales Person Email
    - Sales Person Address
  + Financial Transaction
    - Transaction Amount
    - Transaction Currency
    - Transaction Date
    - Transaction Medium
    - Other Details
    - Accounts Remarks
    - Receipt Generated Email
    - Receipt Generated Courier
  + Database
    - Live Database
      * Database Server
      * Database Name
      * User Name
      * Password
      * Database Size
    - Simulation Database
      * Database Server
      * Database Name
      * User Name
      * Password
      * Database Size
    - Process Database
      * Prefix
      * Database Server
      * Database Name
      * User Name
      * Password

# Configuration (For each workspace)

## Basic Setting Tab

These will come as tab buttons on top and left panel.

1. General Information
2. Database Usage
3. Manage Services
4. Working Environment
5. System Notifications
6. Custom Attributes
7. Processes

## General Information

Use A\_Customer and A\_CustomerPackage tables. Use CustomerID as Workspace ID

(Readonly)

* Company Name
* Package Name
* Activation Date
* Expiry Date
* Package Type
* Administrator Account
* Set Administrator Password
* Language – English

## Database Usage

A\_CustomerPackage table

* Maximum Database Size
  + Used
  + Free
* Maximum Simulation Database Size
  + Used
  + Free

## Manage Services

C\_Setting table

* Maintenance Intervals
  + Overall Maintenance
  + Process Auto Launch
  + Launch Periodic Process
  + Check for late tasks
  + Check for assign until expiration
  + Check for delayed tasks
  + Check for stuck incidents
  + Check for email process launch
  + Check for agent tasks

## Working Environment

C\_Setting and C\_DayExclude

* Date Time format
* Time Zone
* Exclusion Days
  + List of “Month/Day/Year/Description”
  + Working Hours
  + Off Days
* Delete Completed Tasks
  + N Days
* ~~Delete Temporary Files~~

## System Notifications

C\_Setting, C\_EmailPopSettings, C\_EmailSMTPSettings

* Enable Notifications [Yes|No]
* BPM Manager Email address (bpm@company.com)
* SMTP Settings
  + User Name
  + Password
  + SMTP Server
  + Port
  + Connection [TLS|SSL|Unsecure]
* POP3 Settings
  + Email Address
  + User Name
  + Password
  + POP Server
  + Port
  + Leave Copy on server
  + Use SSL

## Custom Attributes

* C\_WorkSpaceCustomAttributeAttribute Type (Drop down)
  + Workspace
  + Processes
  + Activities
  + Variables
  + Organization Charts
  + Users
  + Groups
  + Group Members
* Attribute Name
* Default Value

## Processes

Action Buttons:

D\_Process

* Publish Process
* Disable Process
* Remove Process

List will show following columns:

* Selection Check box
* Process Name
* Version No
* Status

## Event Viewer

This will come under the main tab of “System Messages and log”

C\_WorkspaceLog, …

Event Type drop down list

* Configuration
* Design
* Execution
* Simulation
* Organization Chart
* Clear
* Save

Table will show following columns:

* Type [Error|Information|Warning]
* Time
* Source
* Description

6. Database Structure

On creation of workspace all tables will be created.

# Configuration

## C\_DayExclude

|  |  |
| --- | --- |
| DayExcludeID | int |
| WorkSpaceID | int |
| Day | int |
| Month | int |
| Year | int |
| Date | datetime |
| Description | nvarchar(128) |

## C\_Filter

|  |  |
| --- | --- |
| FilterID | int |
| WorkSpaceID | int |
| FilterName | nvarchar(50) |
| CustomQuery | nvarchar(128) |
| Process | nvarchar(128) |
| Initiator | nvarchar(128) |
| StartIncident | nvarchar(128) |
| EndIncident | nvarchar(128) |
| StartDate | datetime |
| EndDate | datetime |
| Active | int |
| Completed | int |
| Terminated | int |

## C\_Setting

|  |  |
| --- | --- |
| SettingID | int |
| WorkSpaceID | int |
|  |  |
|  |  |
|  |  |
|  |  |
| EDatabase | nvarchar(256) |
| SDatabase | nvarchar(256) |
| MaintenanceInterval | int |
| AutoLaunchInterval | int |
| DeleteCompletedTasks | int |
| DeleteArchivedTasks | int |
| BPMManagerEmail | nvarchar(128) |
| EnableNotification | int |
| WeekOffDays | nvarchar(20) |
| AgentInvokeInterval | int |
| AgentFailInterval | int |
| EnableTracking | bit |
| DeleteIncidentTrackingRecord (Days) | int |
| POP3Password | nvarchar(128) |
| POP3Login | nvarchar(128) |
| POP3Server | nvarchar(128) |
| EnableAutoLaunch | int |
| SMTPPassword | nvarchar(128) |
| SMTPLogin | nvarchar(128) |
| SMTPServer | nvarchar(128) |

## C\_UserProfile

|  |  |
| --- | --- |
| UserProfileID | int |
| WorkSpaceID | int |
| Type | int |
| FilterID | nvarchar(50) |
| Remarks | nvarchar(50) |

## C\_UserProfileDetail

|  |  |
| --- | --- |
| UserProfileDatailID | int |
| WorkSpaceID | int |
| UserProfileID | int |
| ColumnName | nvarchar(512) |
| ColumnType | int |
| DisplayName | nvarchar(512) |
| SequenceNo | int |
| Visible | int |

## C\_UserProfileExtra

|  |  |
| --- | --- |
| UserProfileExtraID | int |
| WorkSpaceID | int |
| UserProfileID | int |
| InfoURL | nvarchar(128) |

## C\_WorkSpace

|  |  |
| --- | --- |
| WorkSpaceID | int |
| WorkSpaceName | nvarchar(50) |
| Administrator | nvarchar(50) |
| Password | nvarchar(16) |
| Version | nvarchar(10) |
| Status | int |
| Designer | nvarchar(128) |
| UpdateDate | datetime |

## C\_WorkSpaceCustomAttribute

|  |  |
| --- | --- |
| WorkSpaceCustomAttributeID | int |
| WorkSpaceID | int |
| AttributeType | nvarchar(50) |
| Name | nvarchar(50) |
| Value | nvarchar(256) |

## C\_WorkSpaceLog

|  |  |
| --- | --- |
| WorkSpaceLogID | int |
| WorkSpaceID | int |
| LogType | nvarchar(50) |
| LogDescription | nvarchar(512) |
| LogDateTime | datetime |

## C\_EmailPOPSettings

|  |  |
| --- | --- |
| EmailPOPSettingID | int |
| WorkSpaceID | int |
| EmailAddress | nvarchar(50) |
| UserName | nvarchar(50) |
| Password | nvarchar(50) |
| PopServer | nvarchar(50) |
| Port | int |
| LeaveCopyOnServer | bit |
| UseSSL | bit |

## C\_EmailSMTPSettings

|  |  |
| --- | --- |
| EmailSMTPSettingID | int |
| WorkSpaceID | int |
| EmailAddress | nvarchar(50) |
| UserName | nvarchar(50) |
| Password | nvarchar(50) |
| SMTPServer | nvarchar(50) |
| Port | int |
| Connection | nvarchar(50) |

# Designer

## D\_Activity

|  |  |
| --- | --- |
| ActivityID | int |
| ProcessID | int |
| ActivityName | nvarchar(128) |
| Description | nvarchar(512) |
| HelpURL | nvarchar(128) |
| RecipientType | nvarchar(300) |
| NodeType | nvarchar(50) |
| Recipient | nvarchar(300) |
| AttachedType | nvarchar(100) |
| TaskRate | int |
| RateUnit | nvarchar(10) |
| Private | int |
| NonAssignable | int |
| Archive | int |
| AllowResubmit | int |
| CompletionTime | int |
| CompletionUnit | nvarchar(10) |
| ExtensionTime | int |
| ExtensionUnit | nvarchar(10) |
| DelayTime | int |
| DelayUnit | nvarchar(10) |
| AgentMachine | nvarchar(128) |
| AttachedFormPath | nvarchar(128) |
| StartupPath | nvarchar(128) |
| Version | nvarchar(10) |
| NodeWidth | int |
| NodeHeight | int |
| XLocation | int |
| YLocation | int |
| ActivitySequence | int |
| NodeSize | nvarchar(100) |
| MinimumResponse | int |

## D\_ActivityAttribute

|  |  |
| --- | --- |
| ActivityAttributeID | int |
|  |  |
| ActivityID | int |
| Name | nvarchar(50) |
| Value | nvarchar(256) |

## D\_ActivityEvent

|  |  |
| --- | --- |
| ActivityEventID | int |
| ProcessID | int |
| ActivityID | int |
| EventType | nvarchar(250) |

## D\_ActivityCondition

|  |  |
| --- | --- |
| ActivityConditionID | int |
|  |  |
| ActivityEventID | int |
| Expression | nvarchar(1000) |

## D\_ActivityAction

|  |  |
| --- | --- |
| ActivityActionID | int |
| ActivityConditionID | int |
|  |  |
| IsElsePart | nvarchar(50) |
| ActionType | nvarchar(50) |
| Target | nvarchar(50) |

## D\_ActivityLinks

|  |  |
| --- | --- |
| LinkID | int |
| TailActivityID | int |
| ProcessID | int |
| HeadActivityID | int |
| LinkType | int |
| LinkSequence | int |
| LinkName | Varchar(100) |

## D\_ProcessForm

|  |  |
| --- | --- |
| ProcessFormID | int |
| ProcessID | int |
| ActivityID | int |
| FormPath | nvarchar(50) |
| UserAuthenticationType | nvarchar(50) |
| FormType | nvarchar(50) |
| ShowToolbar | Boolean |
| ShowSendButton | Boolean |
| ShowReturnButton | Boolean |
| ShowAttacmentButton | Boolean |
| ShowNotesButton | Boolean |
| ShowSignatureButton | Boolean |
| ShowHelpButton | Boolean |
| CSSPath | nvarchar(50) |
| ShowToolbarAtBottom | Boolean |
| HelpPath | nvarchar(50) |
| AttachmentPath | nvarchar(50) |
| ButtonStyle | nvarchar(50) |

## D\_ProcessFormControls

|  |  |
| --- | --- |
| ProcessFormControlID | int |
| ProcessFormID | int |
| SourceVariable | nvarchar(50) |
| DestinationVariable | nvarchar(50) |
| ReadOnly | nvarchar(50) |
| Enable | nvarchar(50) |
| Visible | nvarchar(50) |

## D\_ActivityForms

|  |  |
| --- | --- |
| ActivityFormID | nvarchar(50) |
| ActivityID | nvarchar(50) |
| ProcessFormID | nvarchar(50) |

## D\_DesignLog

|  |  |
| --- | --- |
| DesignLogID | int |
|  |  |
| LogType | nvarchar(50) |
| LogDescription | nvarchar(512) |
| LogDateTime | datetime |

## D\_Process

|  |  |
| --- | --- |
| ProcessID | int |
| WorkSpaceID | int |
| ProcessName | nvarchar(128) |
| HelpURL | nvarchar(128) |
| PDuration | int |
| PUnit | nvarchar(10) |
| PStart | datetime |
| PEnd | datetime |
| PStatus | int |
| POwner | nvarchar(128) |
| PDesigner | nvarchar(128) |
|  |  |
| ProcessXML | nvarcharnvarchar(MAX) |
| PVersion | int |
| PUpdateDate | datetime |
| PAdministrator | nvarchar(128) |

## D\_ProcessMap

|  |  |
| --- | --- |
| ProcessMapID | int |
|  |  |
| ProcessID | int |
| XML | nvarchar(3000) |



## D\_ProcessAttribute

|  |  |
| --- | --- |
| ProcessAttributeID | int |
|  |  |
| ProcessID | int |
| AName | nvarchar(50) |
| AValue | nvarchar(256) |

## D\_ProcessEvent

|  |  |
| --- | --- |
| ProcessEventID | int |
|  |  |
| ProcessID | int |
| EventType | nvarchar(50) |

## D\_ProcessCondition

|  |  |
| --- | --- |
| ProcessConditionID | int |
|  |  |
| ProcessEventID | int |
| Expression | nvarchar(50) |

## D\_ProcessActions

|  |  |
| --- | --- |
| ProcessActionID | int |
| ProcessConditionID | int |
|  |  |
| IsElsePart | nvarchar(50) |
| ActionType | nvarchar(50) |
| Target | nvarchar(50) |

## D\_ProcessLaunch

|  |  |
| --- | --- |
| LaunchID | int |
|  |  |
| ProcessID | int |
| LType | int |
| LDate | datetime |
| LYear | int |
| LMonth | int |
| LDay | int |
| LTime | int |
| LSkip | int |
| LDuration | int |
| LAction | nvarchar(128) |

## D\_ProcessNotification

|  |  |
| --- | --- |
| ProcessNotificationID | int |
| ProcessID | int |
| NotificationType | nvarchar(50) |
| NTo | nvarchar(50) |
| NSubject | nvarchar(50) |
| NBody | nvarchar(100) |

## D\_Programs

|  |  |
| --- | --- |
| ProgramID | int |
| ProgramName | nvarchar(50) |
| Status | nvarchar(50) |

## D\_ProgramAttributes

|  |  |
| --- | --- |
| ProgramAttributeID | nvarchar(50) |
| ProgramID | int |
| Name | nvarchar(50) |
| Value | nvarchar(50) |

## D\_ProgramProjects

|  |  |
| --- | --- |
| ProgramProjects | int |
| ProgramID | int |
| ProjectID | int |

## D\_Project

|  |  |
| --- | --- |
| ProjectID | int |
|  |  |
| ProjectName | nvarchar(128) |
| PDuration | int |
| PUnit | nvarchar(10) |
| PStartDate | Datetime |
| PEndDate | Datetime |
| BaselineStartDate | Datetime |
| BaselineEndDate | DateTime |
| PStatus | int |
| POwner | nvarchar(128) |
| PDesigner | nvarchar(128) |
| PAdministrator | nvarchar(128) |
| ProjectTags | nvarchar(500) |
| ProcessID | int |

## D\_ProjectTasks

|  |  |
| --- | --- |
| ProjectTaskID | int |
| ProjectID | int |
| TaskName | nvarchar(128) |
| StartDate | Datetime |
| EndDate | Datetime |
| BaselineStartDate | Datetime |
| BaselineEndDate | DateTime |
| Status | int |
| UserID | nvarchar(128) |
| GroupID | nvarchar(128) |
| PredecessorTaskID | nvarchar(128) |
| TaskTags | nvarchar(500) |

## D\_ProjectDocuments

|  |  |
| --- | --- |
| ProjectDocumentID | int |
| ProjectID | int |
| FileName | nvarchar(128) |
| Description | nvarchar(50) |
| AccessGroupID | nvarchar(50) |

## D\_ProjectProcesses

|  |  |
| --- | --- |
| ProjectProcessesID | int |
| ProjectID | int |
| DesignProcessID | int |
| PublishProcessID | int |

## D\_ProjectFollowers

|  |  |
| --- | --- |
| ProjectFollowerID | int |
| ProjectID | int |
| UserID | nvarchar(128) |
| Status | Bit |

## D\_ProjectFeeds

|  |  |
| --- | --- |
| ProjectFeedID | int |
| ProjectID | int |
| ProjectFollowerID | nvarchar(128) |
| Comment | nvarchar(500) |
| FeedDateTime | Datetime |
| ParentFeedID | int |

## D\_ProjectTaskFollowers

|  |  |
| --- | --- |
| ProjectTaskFollowerID | int |
| ProjectTaskID | int |
| UserID | int |
| Status | Bit |

## D\_ProjectTaskFeeds

|  |  |
| --- | --- |
| ProjectTaskFeedID | int |
| ProjectID | int |
| ProjectFollowerID | int |
| Comment | nvarchar(500) |
| FeedDateTime | Datetime |
| ParentFeedID | int |

## D\_ProjectAttribute

|  |  |
| --- | --- |
| ProjectAttributeID | int |
|  |  |
| ProjectID | int |
| AName | nvarchar(50) |
| AValue | nvarchar(256) |
| ProcessID | int |

## D\_Variable

|  |  |
| --- | --- |
| VariableID | int |
| ProcessID | int |
|  |  |
| VName | nvarchar(300) |
| VType | int |
| VRows | int |
| VCols | int |
| VDefaultValues | nvarchar(512) |

## D\_VariableTableColumnTypes

|  |  |
| --- | --- |
| VariableColType | int |
|  |  |
|  |  |
| ColumnType | nvarchar(50) |
| variableID | int |

## D\_TableVariableValue

|  |  |
| --- | --- |
| VariableValueID | nvarchar(50) |
| VariableID | nvarchar(50) |
| ProcessID | nvarchar(50) |
| WorkSpaceID | nvarchar(50) |
| Row | int |
| Col | int |
| CellValue | nvarchar(512) |

## D\_ProcessParameterVariable

|  |  |
| --- | --- |
| ProcessParameterVariableID | int |
| VariableID | int |
| ProcessID | int |
| ParameterSequence | int |
| DefaultValue | nvarchar(512) |

## D\_Forms

|  |  |
| --- | --- |
| FormID | int |
| Title | nvarchar(50) |
| ShowTitle | int |
| Introduction | nvarchar(200) |
| Date Created | datetime |
| Version | int |
| SectionStyle | int |

## D\_FormSections

|  |  |
| --- | --- |
| FormSectionID | int |
| FormID | int |
| SectionName | nvarchar(50) |
| SectionDescription | nvarchar(200) |
| SectionImageURL | nvarchar(200) |
| QuestionStyle | int |
| Sequence | int |
| AnswerColumns | int |
| Style | int |

## D\_FormRow

|  |  |
| --- | --- |
| FormRowID | nvarchar(200) |
| SectionID | nvarchar(200) |
| ImageURL | nvarchar(50) |
| RowLabel | nvarchar(50) |
| ControlType | int  (Option| CheckBox|  TrueFalse| YesNo |  SingleText | MultiText |  Number | Date |  Grid | Label | Button | Link Button) |
| DefaultValue |  |
| Sequence | int |
| Mandatory | Checkbox (YesNo) |
| OptionStyle | Dropdown | Radio Button |

## D\_FormControls

|  |  |
| --- | --- |
| FormControlID | int |
| FormRowID | int |
| Options | int |
| AnswerURL | nvarchar(50) |
| SourceVariable | nvarchar(100) |
| DestinationVariable | nvarchar(100) |

## D\_FormControlEvents

|  |  |
| --- | --- |
| FormControlEventID | int |
| FormControlID | int |
| EventType | int |
| Target | nvarchar(100) |
| ParameterVariable | nvarchar(100) |

# Execution

## E\_ExecuteLog

|  |  |
| --- | --- |
| ExecuteLogID | nvarchar(50) |
| WorkSpaceID | nvarchar(50) |
| LogType | nvarchar(50) |
| LogDescription | nvarchar(512) |
| LogDateTime | datetime |

## E\_Incident

|  |  |
| --- | --- |
| IncidentID | nvarchar(50) |
| PublishProcessID | nvarchar(50) |
| IncidentNumber | int |
| IncidentSummary | nvarchar(512) |
| StartTime | datetime |
| EndTime | datetime |
| IncidentStartFrom | int |
| Status | int |
| ExpireOn | datetime |
| ParentProcessID | nvarchar(50) |
| LaunchFrom | nvarchar(128) |
| OwnerID | nvarchar(50) |

## E\_*(ProcessName\_Version)\_*Variable

|  |  |
| --- | --- |
| PublishProcessID | nvarchar(50) |
| VersionNo | int |
| IncidentNo | int |
| StageID | nvarchar(50) |
| IsArchived | Boolean |
| <<VariableName>> | <<Type as per definition>> |
|  |  |

## E\_\_*(ProcessName\_Version\_TableVariable)\_*Detail

|  |  |
| --- | --- |
| PublishProcessID | nvarchar(50) |
| VersionNo | int |
| IncidentNo | int |
| StageID | nvarchar(50) |
| IsArchived | nvarchar(512) |
| <<VariableColumns>> | <<Type as per definition>> |

## E\_Notification

|  |  |
| --- | --- |
| NotificationID | nvarchar(50) |
| Details | nvarchar(1024) |

## E\_PublishProcess

|  |  |
| --- | --- |
| PublishProcessID | nvarchar(50) |
| ProcessID | nvarchar(50) |
| ParentProcessID | nvarchar(50) |
| ProcessName | nvarchar(128) |
| Status | int |
| Owner | nvarchar(50) |
| Administrator | nvarchar(50) |
| Designer | nvarchar(50) |
| Version | nvarchar(10) |
| PublishDate | datetime |

## E\_Stage

|  |  |
| --- | --- |
| StageID | nvarchar(50) |
| PublishProcessID | nvarchar(50) |
| IncidentID | nvarchar(50) |
| StageNo | int |
| StageStatus | int |
| CreationTime | datetime |

## E\_Task

|  |  |
| --- | --- |
| TaskID | nvarchar(50) |
| PublishProcessID | nvarchar(50) |
| ActivityID | nvarchar(50) |
| StageID | nvarchar(50) |
| ActivityName | nvarchar(128) |
| Recipient | nvarchar(128) |
| RecipientType | int |
| RecipientName | nvarchar(128) |
| PrevoiusActivityID | nvarchar(50) |
| StartTime | datetime |
| EndTime | datetime |
| Status | int |
| OwnerID | nvarchar(50) |
| AttachedType | int |
| Rate | int |
| ActivityTime | int |
| TimeUnit | int |
| Priority | int |
| Summary | nvarchar(512) |
| OverDue | datetime |
| Urgent | datetime |
| Comments | nvarchar(512) |

## E\_WorkLoad

|  |  |
| --- | --- |
| WorkloadID | nvarchar(50) |
| UserID | nvarchar(50) |
| AssignedTo | nvarchar(50) |
| TaskID | nvarchar(50) |
| Until | datetime |
| Status | int |

## E\_Notification

|  |  |
| --- | --- |
| NotificationID | nvarchar(50) |
| WorkSpaceID | nvarchar(50) |
| NotificationType | nvarchar(50) |
| ProcessID | nvarchar(50) |
| IncidentNo | int |
| To | nvarchar(500) |
| Subject | nvarchar(100) |
| Body | nvarchar(2000) |
| AttachmentURL | nvarchar(200) |
| Status | int |

## E\_TaskFollowers

|  |  |
| --- | --- |
| TaskFollowerID | nvarchar(50) |
| TaskID | nvarchar(50) |
| UserID | nvarchar(128) |
| Status | Bit |

## E\_TaskFeeds

|  |  |
| --- | --- |
| TaskFeedID | nvarchar(50) |
| TaskID | nvarchar(50) |
| TaskFollowerID | nvarchar(128) |
| Comment | nvarchar(500) |
| FeedDateTime | Datetime |
| ParentFeedID | nvarchar(50) |

## E\_Incident\_Signatures

|  |  |
| --- | --- |
| IncidentSignatureID | nvarchar(50) |
| PublishProcessID | nvarchar(50) |
| IncidentNo | int |
| StageID | int |
| SignatureVariableName | nvarchar(50) |
| UserID | nvarchar(50) |
| Comments | nvarchar(50) |
| SignDate | DateTime |
| Action | nvarchar(50) |
| TaskID | nvarchar(50) |

## E\_Incident\_Attachments

|  |  |
| --- | --- |
| IncidentAttachmentsID | nvarchar(50) |
| PublishProcessID | nvarchar(50) |
| IncidentNo | int |
| StageID | int |
| AttachmentVariableName | nvarchar(50) |
| FileName | nvarchar(50) |
| Path | nvarchar(50) |
| Description | nvarchar(50) |
| Status | nvarchar(50) |

## E\_Incident\_Notes

|  |  |
| --- | --- |
| IncidentNotesID | nvarchar(50) |
| PublishProcessID | nvarchar(50) |
| IncidentNo | int |
| StageID | int |
| UserID | nvarchar(50) |
| Note | nvarchar(50) |
| NoteDate | DateTime |

# Organization Chart

## O\_Chart

|  |  |
| --- | --- |
| ChartID | int |
| WorkSpaceID | int |
| Name | nvarchar(50) |
| ParentID | nvarchar(50) |
| Version | nvarchar(10) |
| UpdateDate | Datetime |
| Status | int |
| Designer | nvarchar(128) |
| ChartXML | nvarchar(MAX) |

## O\_ChartAttribute

|  |  |
| --- | --- |
| ChartAttributeID | int |
| WorkSpaceID | int |
| ChartID | int |
| CName | nvarchar(50) |
| CValue | nvarchar(256) |

## O\_ChartLog

|  |  |
| --- | --- |
| ChartLogID | int |
| WorkSpaceID | int |
| LogType | nvarchar(50) |
| LogDescription | nvarchar(512) |
| LogDateTime | datetime |

## O\_Group

|  |  |
| --- | --- |
| GroupID | int |
|  |  |
| Name | nvarchar(128) |
| Type | int |
| ParentID | nvarchar(50) |
| Version | int |
| UpdateDate | datetime |
| Status | int |
| Designer | nvarchar(128) |
| Rights | nvarchar(1024) |

## O\_GroupAttribute

|  |  |
| --- | --- |
| GroupAttributeID | int |
| WorkSpaceID | int |
| GroupID | int |
| GNmae | nvarchar(50) |
| GValue | nvarchar(256) |

## O\_GroupMember

|  |  |
| --- | --- |
| GroupMemeberID | int |
|  |  |
| GroupID | int |
|  |  |
| Type | int |
| Weight | int |
| Position | int |
| Rights | nvarchar(1024) |
| UserID | int |

## O\_GroupMemberAttribute

|  |  |
| --- | --- |
| GroupMemberAttributeID | int |
| WorkSpaceID | int |
| GroupMemberID | int |
| GName | nvarchar(50) |
| GValue | nvarchar(256) |

## O\_Manager

|  |  |
| --- | --- |
| ManagerID | int |
| WorkSpaceID | int |
| ChartID | int |
| UserManager | char(10) |
| UserID | nvarchar(50) |

## O\_User

|  |  |
| --- | --- |
| UserID | int |
| WorkSpaceID | int |
|  |  |
| UserName | nvarchar(128) |
| Designation | nvarchar(50) |
|  | int |
|  |  |
|  |  |
|  |  |
|  |  |
| PrimaryJob | int |
| Type | int |
| ReportTo | int |
| Password | nvarchar(64) |
| DomainPath | nvarchar(256) |
| AuthenticationMode | nvarchar(10) |
| Rights | nvarchar(1024) |
| Version | nvarchar(10) |
| CreateDate | datetime |
| ULevel | int |
| Email | nvarchar(50) |
| JobFunction | nvarchar(128) |
| DeparmentID | int |

## O\_UserAttribute

|  |  |
| --- | --- |
| UserAttributeID | int |
| WorkSpaceID | int |
| UserID | int |
| Name | nvarchar(50) |
| Value | nvarchar(256) |

## O\_Department

|  |  |
| --- | --- |
| DepartmentID | int |
| WorkSpaceID | int |
| Name | nvarchar(100) |
| ParentID | int |
| CreatedDate | datetime |

## O\_UserDetails

|  |  |
| --- | --- |
| UserID | int |
| WorkSpaceID | int |
| FirstName | nvarchar(50) |
| LastName | nvarchar(50) |
| NICNo | nvarchar(50) |
| MobileNo | nvarchar(50) |
| TelHomeNo | nvarchar(50) |
| TelOfficeNo | nvarchar(50) |
| FaxNo | nvarchar(50) |
| UserGrade | nvarchar(50) |
| Sex | nvarchar(50) |
| EmployeeNo | nvarchar(50) |
| PostalAddress | nvarchar(50) |
| POBox | nvarchar(50) |
| Location | nvarchar(50) |
| State | nvarchar(50) |
| PostalCode | nvarchar(50) |
| Country | nvarchar(50) |
| Company | nvarchar(50) |
| Notes | nvarchar(500) |

# Simulation

## S\_Incident

|  |  |
| --- | --- |
| IncidentID | int |
| PublishProcessID | int |
| IncidentNumber | int |
| IncidentSummary | nvarchar(512) |
| StartTime | datetime |
| EndTime | datetime |
|  |  |
| Status | int |
| ExpireOn | datetime |
| ParentProcessID | nvarchar(50) |
| LaunchFrom | nvarchar(128) |
| OwnerID | nvarchar(50) |
| ProcessID | int |

## S\_Incident\_Signatures

|  |  |
| --- | --- |
| IncidentSignatureID | int |
| PublishProcessID | nvarcharint |
| IncidentNo | int |
| StageID | int |
| SignatureVariableName | nvarchar(50) |
| UserID | nvarchar(50) |
| Comments | nvarchar(500) |
| SignDate | DateTime |
| Action | nvarchar(50) |
| TaskID | nvarchar(50) |

## S\_Incident\_Attachments

|  |  |
| --- | --- |
| IncidentAttachmentsID | int |
| PublishProcessID | nvarcharint |
| IncidentNo | int |
| StageID | int |
| AttachmentVariableName | nvarchar(50) |
| FileName | nvarchar(50) |
| Path | nvarchar(100) |
| Description | nvarchar(100) |
| Status | nvarchar(50) |

## S\_Incident\_Notes

|  |  |
| --- | --- |
| IncidentNotesID | int |
| PublishProcessID | nvarcharint |
| IncidentNo | int |
| StageID | int |
| UserID | nvarchar(50) |
| Note | nvarchar(50) |
| NoteDate | DateTime |

## S\_*(ProcessName\_Version)\_*Variable

|  |  |
| --- | --- |
| PublishProcessID | nvarchar(50) |
| IncidentNo | int |
| StageID | nvarchar(50) |
| IsArchived | Boolean |
| <<VariableName>> | <<Type as per definition>> |

## S\_\_*(ProcessName\_Version\_TableVariable)\_*Detail

|  |  |
| --- | --- |
| PublishProcessID | nvarchar(50) |
| VersionNo | int |
| IncidentNo | int |
| StageID | nvarchar(50) |
| IsArchived | nvarchar(512) |
| <<VariableColumns>> | <<Type as per definition>> |

## S\_PublishProcess

|  |  |
| --- | --- |
| PublishProcessID | int |
| ProcessID | int |
| ParentProcessID | nvarchar(50) |
| ProcessName | nvarchar(128) |
| Status | int |
| Owner | nvarchar(50) |
| Administrator | nvarchar(50) |
| Designer | nvarchar(50) |
| PublishVersion | int |
| PublishDate | Datetime |

## S\_Stage

|  |  |
| --- | --- |
| StageID | int |
|  |  |
| IncidentID | int |
| StageNo | int |
| StageStatus | int |
| StageSummery | Varchar(500) |

## S\_Task

|  |  |
| --- | --- |
| TaskID | int |
| PublishProcessID | nvarchar(50) |
| ActivityID | int |
| StageID | int |
| ActivityName | nvarchar(128) |
| Recipient | nvarchar(128) |
| RecipientType | nvarchar(300) |
| RecipientName | nvarchar(128) |
| PrevoiusActivityID | nvarchar(50) |
| StartTime | Datetime |
| EndTime | Datetime |
| Status | int |
| OwnerID | nvarchar(50) |
| AttachedType | int |
| Rate | int |
| ActivityTime | int |
| TimeUnit | int |
| Priority | int |
|  |  |
| OverDue | Datetime |
| Urgent | Datetime |
| Comments | nvarchar(512) |

## S\_Task\_Final

|  |  |
| --- | --- |
| TaskID | int |
| IncidentID | int |
| ActivityID | int |
| ActivityName | Varchar(128) |
| RecipientType | nvarchar(300) |
| Recipient | nvarchar(128) |
|  |  |
| PrevoiusActivityID | nvarchar(50) |
|  |  |
| StartTime | Datetime |
| EndTime | Datetime |
| Status | int |
| OwnerID | nvarchar(50) |
| AttachedType | int |
| Rate | int |
| ActivityTime | int |
| TimeUnit | int |
| Priority | int |
|  |  |
| OverDue | Datetime |
| Urgent | Datetime |
| Comments | nvarchar(512) |

# Account Package

These tables are part of Process Cloud Master Database.

## A\_Customer

|  |  |
| --- | --- |
| CustomerID | int |
| CompanyName | nvarchar(50) |
| OfficialAddress1 | nvarchar(100) |
| OfficialAddress2 | nvarchar(100) |
| City | nvarchar(50) |
| State | nvarchar(50) |
| Country | nvarchar(50) |
| ZipCode | nvarchar(50) |
| ContactPersonName | nvarchar(50) |
| ContactPersonEmail | nvarchar(50) |
| ContactPersonPhoneNo | nvarchar(50) |
| OfficialPhoneNo1 | nvarchar(50) |
| OfficialPhoneNo2 | nvarchar(50) |
| CustomerLogo | nvarchar(50) |

## A\_CustomerPackage

|  |  |
| --- | --- |
| CustomerPackageID | int |
| CustomerID | int |
| PackageType | nvarchar(50) |
| DeployedAtType | nvarchar(50) |
| MaintainedByType | nvarchar(50) |
| NumberOfDesignerUsers | int |
| NumberOfAdministratorUsers | int |
| NumberOfReportUsers | int |
| FormBuilderAccess | bit |
| WebServiceAccess | bit |
| ProcessRespository | nvarchar(50) |
| SimulationAccess | bit |
| NumberOfEndUsers | int |
| EmailProcessLaunch | nvarchar(50) |
| NumberOfTransactionsPerDay | int |
| AccountStatusType | nvarchar(50) |
| ActivativationDate | datetime |
| ExpiryDate | datetime |
| GracePeriod | int |
| RenewalDueDate | datetime |
| SalesPersonName | nvarchar(50) |
| SalesPersonContactNo | nvarchar(50) |
| SalesPersonEmail | nvarchar(50) |
| SalesPersonAddress | nvarchar(50) |
| LastUpdateDate | date |
| LastUpdateBy | nvarchar(50) |
| RecordStatus | nvarchar(50) |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## A\_CustomerNotifications

|  |  |
| --- | --- |
| CustomerNotificationID | int |
| CustomerID | int |
| NotificationType | nvarchar(50) |
| NotificationStatus | nvarchar(50) |
| Message | nvarchar(512) |
|  |  |

## A\_CustomerFinancialTransaction

|  |  |
| --- | --- |
| CustomerFinancialTransactionID | int |
| CustomerID | int |
| TransactionAmount | nvarchar(50) |
| TransactionCurrency | nvarchar(50) |
| TransactionDate | datetime |
| TransactionMedium | nvarchar(50) |
| OtherDetails | nvarchar(200) |
| AccountsRemarks | nvarchar(200) |
| ReceiptGeneratedEmail | bit |
| ReceiptGeneratedCourier | bit |

# Master Configuration

These tables are part of Process Cloud Master Database.

## MC\_Product

|  |  |
| --- | --- |
| ProductDetailID | int |
| SerialNo | nvarchar(50) |
| CloudLocation | nvarchar(50) |
| ManagedBy | nvarchar(50) |
| InstallationDate | Datetime |
| DatabaseName | nvarchar(50) |
| ProductVersion | nvarchar(50) |
| BuildNo | nvarchar(50) |
| BuildDate | nvarchar(50) |
| UpdateService | nvarchar(50) |
| AllowUpdate | bit |
| SalesPerson | nvarchar(50) |
| SalesContact | nvarchar(50) |
| AdministratorLoginName | nvarchar(50) |
| AdministratorPassword | nvarchar(50) |

## MC\_ProductRights

|  |  |
| --- | --- |
| RightsID | int |
| BitNo | int |
| Module | nvarchar(50) |
| Feature | Datetime |
| Description | nvarchar(50) |
| ProductVersion | nvarchar(50) |

|  |  |
| --- | --- |
| MC\_EnumerationsConstantID | int |
| Module | nvarchar(50) |
| ConstantTypeName | nvarchar(50) |
| ConstantValue | int |
| Enumerator | nvarchar(50) |
| Description | nvarchar(200) |

## MC\_ProcessState

|  |  |
| --- | --- |
| ProcessStateID | int |
| ProcessID | int |
| hidUserNo | int |
| hidDecisionNo | int |
| hidLinkNo | int |
| hidVariableNo | int |

7. Customer BPM Services Options

# On Demand BPM

|  |  |
| --- | --- |
| Description | SaaS BPM product offered in a multi-tenant setup. |
| Common Use | Process Discovery and Automation - Few processes and users |
| Pricing | Per seat |
| Deployed at | Cloud |
| Maintained by | Workplains |
| Design users | 1 minimum |
| Business Users | Available |
| Process Modeler with Simulation | Yes |
| Forms | Yes |
| Human Workflow | Yes |
| Process Engine | Yes |
| Web Services | Yes |
| Services Repository | Yes |
| Triggers, Events | Limited |
| Data Integration | No |
| VPN Connectivity | No |
| Typical Solutions and Benefits | • Document & Simulate Processes  • Automate & Track Workflow Tasks  • Ideal for Review-Approval Processes  • Completely Web-Based Solution  • Reliability of Hosting at Cloud  • Start quickly, benefit now from BPM |

# Managed BPM

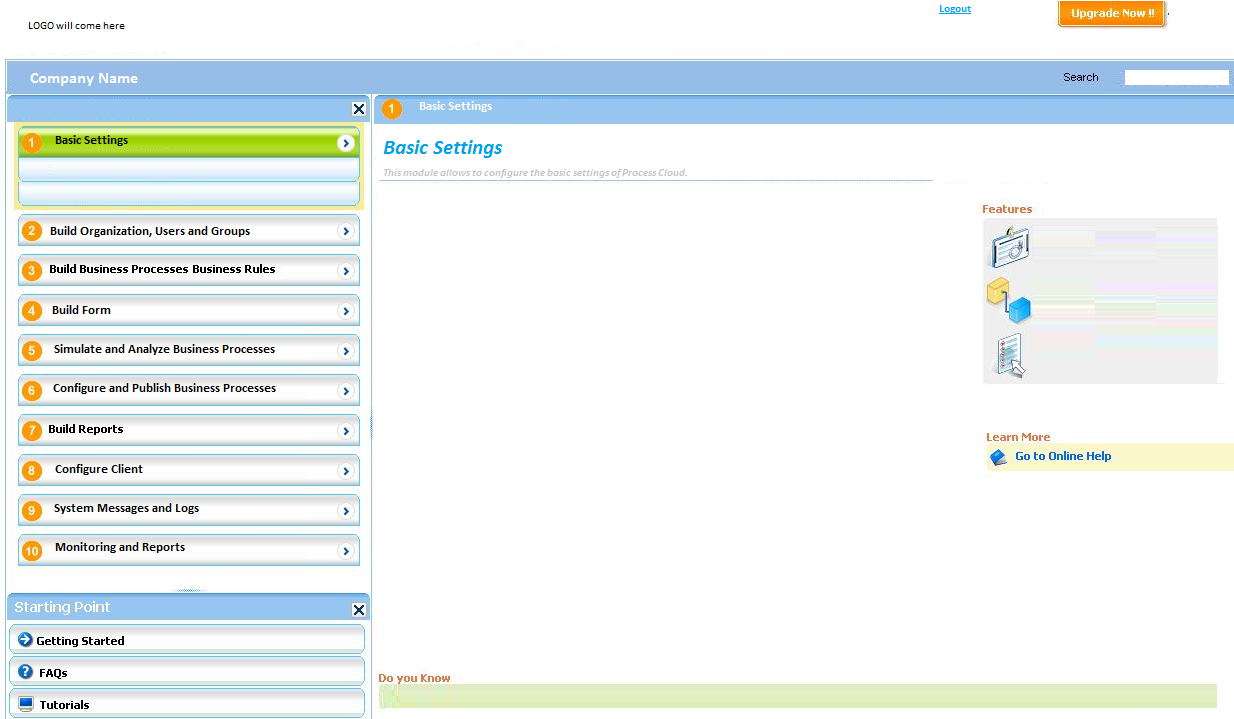
|  |  |
| --- | --- |
| Description | SaaS BPM product offered as a dedicated, single-tenant setup. |
| Common Use | Process Discovery and Automation - Many processes and users |
| Pricing | Starts at $2000/Month |
| Deployed at | Cloud |
| Maintained by | Workplains |
| Design users | 2 included |
| Business Users | 10 included |
| Process Modeler with Simulation | Yes |
| Forms | Yes |
| Human Workflow | Yes |
| Process Engine | Yes |
| Web Services | Yes |
| Services Repository | Yes |
| Triggers, Events | Yes |
| Data Integration | Limited |
| VPN Connectivity | Yes |
| Typical Solutions and Benefits | • Document & Simulate Processes  • Dedicated Install for your Team  • Connect with Internal Apps thru VPN  • Managed and Maintained by Workplains  • Reliability of Hosting at Cloud  • Start quickly, benefit now from BPM |

# On Premises BPM

|  |  |
| --- | --- |
| Description | Full, no-compromise BPM product offered for install and setup within customer environment. |
| Common Use | Large scale process and workflow automation - Many processes, users and integration with multiple other applications |
| Pricing | Starts at $1500/Month |
| Deployed at | Internal Server |
| Maintained by | Customer staff |
| Design users | 2 included |
| Business Users | 10 included |
| Process Modeler with Simulation | Yes |
| Forms | Yes |
| Human Workflow | Yes |
| Process Engine | Yes |
| Web Services | Yes |
| Services Repository | Yes |
| Triggers, Events | Yes |
| Data Integration | Yes |
| VPN Connectivity | Yes |
| Typical Solutions and Benefits | • Same Rich Functionality + More  • Installed in your Organization  • Integrate with Internal Applications  • Comfort and Security of Ownership  • Ensure compliance with Internal Standards  • Ideal for large, enterprise wide strategy |

8. Applications Layout

# Administrator



## Tabs and Sub-Tabs

1. Basic Settings (See Configuration (setting Pages) chapter)
   1. General Information
   2. Databases
   3. Services
   4. Environment
   5. System Notifications
   6. Custom Attributes
2. Build Organization, User and Groups
   1. Organization Charts
      1. OC Tree
   2. Groups
      1. Group List
3. Build Business Processes
   1. Processes
      1. Process List
   2. Manage Processes
4. Build Forms
   1. Basic Form
      1. List
   2. .NET Form
      1. List
5. Simulate and Analyze
   1. Simulate
   2. Analyze
   3. Reports
6. Configure and Publish Business Processes (See Configuration (setting Pages) chapter)
   1. Processes
7. Build Reports
8. Configure Clients
   1. User Profiles
      1. Users
   2. Group Profiles
      1. Groups
9. System Messages and Logs (See Configuration (setting Pages) chapter)
   1. Organization Unit
   2. Design
   3. Execution
10. Monitoring and Reports
    1. Criteria Builder
    2. Delay/Late Tasks
    3. Completed Tasks
    4. Active Tasks
    5. User Workloads

9. Engine Pseudo Code

|  |  |  |  |
| --- | --- | --- | --- |
|  | Method | Parameter | Pseudo Code |
| 1. 1   1 | Publish Process | **Process ID** | 1. Validate Process    1. Recipient Assigned    2. Forms Linked 2. Check for already installed processes 3. If installed assign next version number. Else install with first version 4. If Simulation Install in S\_PublishProcess 5. Else for live install in S\_PublishProcess 6. Create a new tables for variable like “S\_(*ProcessName\_Version*)\_Variable” 7. And for each table type variable create separate table like “S\_(*ProcessName\_Version*\_TableVariable)\_Variable” 8. For each signature variable create entry in S\_IncidentSignatures table with incident =0 9. For each attachment variable create entry in S\_IncidentAttachmentts table with incident =0 10. Call Activate Initiate Activity method |
| 2 | Activate Initiate Activity | **Process Name**  **Version Number** | 1. Check for first Activity 2. Check Activity Recipient 3. Entry in S\_Incident table with 0 4. Entry in S\_Stage with Stage 0 5. Entry in S\_Task for first Activity with Incident 0 and for all possible recipients to Initiate Activity (Call **GetActivityUsers**) |
|  | Get Activity Users | **ProcessID**  **Version**  **ActivityID** | 1. Check recipient type of activity 2. Get user(s) from users table. If group then get member(s) from group member tables. 3. Create entry in S\_Task table for each user |
|  | Submit Task | **ProcessID**  **Version**  **IncidentNo**  **TaskID**  **SubmitType**  **DataXML**  **NewNotes**  **SubmittedBy** | 1. If first Activity of process then **LaunchIncident** else continue with current IncidentNo 2. Perform Activity Complete **PerformActivityRules** rules 3. If recipient type is group and **CheckMinResponseReached** is true then goto 4 else return 4. **PerformActivityLinks** and activate all tale activities 5. **UpdateIncidentStage** in S\_Stage 6. Update DataXML in S\_Variable… tables 7. Create entry in S\_Task table for each user 8. **CheckIncidentCompleted** |
|  | Launch Incident | **ProcecssID**  **VersionNo** | 1. Get next incident number 2. Complete first activity |
|  | Update Incident Stage | **ProcessID**  **IncidentNo** | 1. Get latest stage no 2. Generate new stage number 3. Mark old stages as archived or complete and current stage with Active. |
|  | Update Variables | **ProcessID**  **IncidentNo**  **StageNo**  **DataXML** | 1. Parse DataXML 2. Update S\_VariableTables with latetst data and current StageNo |
|  | Perform Activity Rules | **ProcessID**  **VersionNo**  **IncidentNo** | 1. Evaluate Expression 2. If true perform if actions 3. If false perform else actions |
|  | Perform Activity Links | **ProcessID**  **VersionNo**  **ActivityID** | 1. Get all head activities 2. Loop: Activate all head activities one by one |
|  | Activate Activity | **ProcessID**  **VersionNo**  **ActivityID** | 1. Get Recipient Type 2. Get Users 3. Store activity information for each user in S\_Task table with status active 4. **PerformActivityRules** for the event Activity Activated |
|  | Check Incident Completed | **ProcessID**  **IncidentNo** | 1. Check S\_Task table for any active activity 2. If no activity is active then return Incident is completed. |
|  | Return Activity |  | *Same as Submit activity* |
|  | Terminate Activity |  | *Same as submit activity* |
|  | Terminate Incident | **ProcessID**  **IncidentNo** | 1. Update S\_Incident, S\_Stage and S\_Task tables to terminate incident 2. Mark activate activities terminated. |
|  | Check MinResponseReached | **ActivityID**  **GroupName** | 1. Get minimum response value of the activity 2. Get Current response of the activity in S\_Task table 3. If reached return true else return false. |
|  |  |  |  |

# Engine Flowchart

