System configuration

**Low Level Design Document**

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# Introduction

* Purpose Of the Document

This document serves as a detailed guide for the development team to implement the low-level design of the System Configuration of AMF. It outlines the specific components, data flow, algorithms, and interfaces required to realize the functionality of managing System Configuation within the system.

* Scope

The scope of this LLD document is focused on providing a detailed design for the System Configuration module of AMF. It encompasses the following aspects:

* Module Overview
* Architectural Diagram
* Data Structure
* Algorithms and Logic
* Interfaces
* Error Handling
* Performance Considerations
* Security Considerations
* Testing Strategy
* Dependencies
* Configuration Management

# Module Overview

The System Configuration module defines:

* The different Entities that determine how the system is structured
  + - **Application:** An Application is a logical group of Modules that enables management of information of specific nature
    - **Module:** A Module is an independent component that can be easily integrated into an application of the system. A module specifies a set of functions which can be performed on a specific set of information.
    - **Action:** An action is the defined piece of task that can be performed in a module.
    - **Member:** A Member is an organization or an individual who manages its information in one or more Applications in the system.
    - **Action Group:** Action Groups are logical grouping of actions that standardizes and facilitates the assignment of multiple actions to members.
* The different Configurations that determine how the system behaves :
  + - **System Mode:** The System Mode determines whether the system is a
      * Stand Alone System
      * SaaS system.
    - **Multi Action Group:** The Multi Action Group behaviour determines whether a Member can be assigned multiple Action Groups or must be restricted to only one Action Group.

# Architectural Diagram

# Data Structure

This section describes the attributes of different Entities of system configuration and their relationships.

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | Application | | |
| **Entity Type** | Table | | |
| **Purpose / Description** | Stores the list of Applications configured in the system | | |
| **Database Type** | PostgreSQL | | |
| **Database Name** | System Database | | |
| **References** |  | | |
| **Attribute Name** | **Purpose / Description** | **Data Type** | **Constraints** |
| Code | An Alpha Numeric value that is used internally to uniquely identify an application. | String | Primary Key |
| Name | A string that uniquely identifies an application. Used for public display. | String | Unique |
| Description | A brief description of the application | Text |  |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | Module | | |
| **Entity Type** | Table | | |
| **Purpose / Description** | Stores the list of Modules available in the System. | | |
| **Database Type** | PostgreSQL | | |
| **Database Name** | System Database | | |
| **References** |  | | |
| **Attribute Name** | **Purpose / Description** | **Data Type** | **Constraints** |
| Code | An Alpha Numeric value that is used internally to uniquely identify a module. | String | Primary Key |
| Name | A string that uniquely identifies a module used for public display. | String | Unique |
| Description | A brief description of the module | Text |  |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | Action | | |
| **Entity Type** | Table | | |
| **Purpose / Description** | Stores the list of Actions available in the System. | | |
| **Database Type** | PostgreSQL | | |
| **Database Name** | System Database | | |
| **References** |  | | |
| **Attribute Name** | **Purpose / Description** | **Data Type** | **Constraints** |
| Code | An Alpha Numeric value that is used internally to uniquely identify an action. | String | Primary Key |
| Name | A string that uniquely identifies an action used for public display. | string | Unique |
| Description | A brief description of the action | Text |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | Action Group | | |
| **Entity Type** | Table | | |
| **Purpose / Description** | Stores the list of Action Groups available in the System. | | |
| **Database Type** | PostgreSQL | | |
| **Database Name** | System Database | | |
| **References** |  | | |
| **Attribute Name** | **Purpose / Description** | **Data Type** | **Constraints** |
| Code | An Alpha Numeric value that is used internally to uniquely identify an action group. | String | Primary Key |
| Name | A string that uniquely identifies an action group used for public display. | string | Unique |
| Description | A brief description of the action group | Text |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | Member | | |
| **Entity Type** | Table | | |
| **Purpose / Description** | Stores the list of members available in the System. | | |
| **Database Type** | PostgreSQL | | |
| **Database Name** | System Database | | |
| **References** |  | | |
| **Attribute Name** | **Purpose / Description** | **Data Type** | **Constraints** |
| Code | An Alpha Numeric value that is used internally to uniquely identify a member. | String | Primary Key |
| Name | A string that uniquely identifies a member | string | Unique |
| Created On | When member is created | DateTime |  |
| Description | A brief description of a member | Text |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | Application Action | | |
| **Entity Type** | Table | | |
| **Purpose / Description** | Stores the Combination of application and action in the System. | | |
| **Database Type** | PostgreSQL | | |
| **Database Name** | System Database | | |
| **References** |  | | |
| **Attribute Name** | **Purpose / Description** | **Data Type** | **Constraints** |
| Application Code | Application Code of Master Application Table | String | Foreign Key |
| Action Code | Action Code of Master Action Table | String | Foreign Key |

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | ActionGroupAction | | |
| **Entity Type** | Table | | |
| **Purpose / Description** | Stores the Combination of action and actionGroup in the System. | | |
| **Database Type** | PostgreSQL | | |
| **Database Name** | System Database | | |
| **References** |  | | |
| **Attribute Name** | **Purpose / Description** | **Data Type** | **Constraints** |
| Action Code | Action Code of Master Action Table | String | Foreign Key |
| ActionGroup Code | ActionGroup Code of Master ActionGroup Table | String | Foreign Key |

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | Module Action | | |
| **Entity Type** | Table | | |
| **Purpose / Description** | Stores the Combination of module and action in the System. | | |
| **Database Type** | PostgreSQL | | |
| **Database Name** | System Database | | |
| **References** |  | | |
| **Attribute Name** | **Purpose / Description** | **Data Type** | **Constraints** |
| Module Code | Module Code of Master Module Table | String | Foreign Key |
| Action Code | Action Code of Master Action Table | String | Foreign Key |

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | MemberActionGroup | | |
| **Entity Type** | Table | | |
| **Purpose / Description** | Stores the Combination of member and actionGroup in the System. | | |
| **Database Type** | PostgreSQL | | |
| **Database Name** | System Database | | |
| **References** |  | | |
| **Attribute Name** | **Purpose / Description** | **Data Type** | **Constraints** |
| Member Code | Member Code of Master Member Table | String | Foreign Key |
| ActionGroup Code | ActionGroup Code of Master Action Table | String | Foreign Key |

# Algorithms and Logic

**Algorithms**: Create Application

Description:

This algorithm will store application information

Input:

Application Code, Name, Description

Output:

Boolean indication of Application stored or not.

**Algorithms**: Create Module

Description:

This algorithm will store module information

Input:

Module Code, Name, Description

Output:

Boolean indication of Module stored or not.

**Algorithms**: Create Member

Description:

This algorithm will store member information

Input:

Member Code, Name, Created On, Description

Output:

Boolean indication of member stored or not.

**Algorithms**: Create Action

Description:

This algorithm will store Action information

Input:

Action Code, Name, Module Code, Action Group, Description

Output:

Boolean indication of Action stored or not.

**Algorithms**: Create ActionGroup

Description:

This algorithm will store Action Group information

Input:

Action Group Code, Name, Member Code, Description

Output:

Boolean indication of Action Group stored or not.

# Interfaces

# Error Handling

# Performance Considerations

# Security Considerations

# Testing Strategy

# Dependencies

# Configuration Management

# Documentation References

# Glossary

|  |  |
| --- | --- |
| **Term** | **Definition** |
|  |  |
| **Action** | An action is the defined piece of task that can be performed in a module. |
| **Action Group** | Action Groups are logical grouping of actions that standardizes and facilitates the assignment of multiple actions to members. |
| **Application** | An Application is a logical group of Modules that enables management of information of specific nature |
| **Member** | A Member is an organization or an individual who manages its information in one or more Applications in the system. |
| **Module** | A Module is an independent component that can be easily integrated into an application of the system.  A module specifies a set of functions which can be performed on a specific set of information. |
|  |  |

# Revision History