**Grant Management System (GMS)**

**Introduction**

This POC application has to be implemented using .Net Core, API and Angular.

**Purpose**

Purpose of doing this application is to learn .Net core, API and Angular. Try to follow some of the key design principles like:

* Separation of concerns/ Dependency Injection
* Abstraction.
* Please write business logics in separate class / repositories and use dependency injection to call the business class file using dependency injection in the controller / Api controller.
* Use Entity framework core/LINQ queries for CRUD operations.
* .NET core project should be a 3 layered architecture with API, Repository/Business and Data Access.
* Please use http services in Angular to invoke API calls.
* Entity framework core.

**Application Perspective**

GMS is a web-based system and major feature includes:

1. Login to the application.
2. Adding Programs for Grant.
3. Applicant registration.
4. Review /Approve grants for candidates.

**Software Required**

* Visual Studio Code/Visual Studio 2017/2019
* .Net core SDK 3.1/ 5.0
* Node Js
* Npm
* SQL Server
* Angular

1. **Login Screen**

* End users can login to the application using a unique username and password.
* There should be a “Register” link in the page, the new applicants can click on the link and proceed to the registration process.

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| **Grant Management System** | | | |
|  |  |  |  |
| **Login** | | | |
|  |  |  |  |
| Email Address |  |  |  |
|  |  |  |  |
| Password |  |  |  |
|  |  |  |  |
|  |  | [Register](http://registrtion) |  |
|  |  |  |  |

**Validations:**

* User name should be an email id and email format should be validated.
* Username and password are required fields.
* Username and password should be validated against the user info table , and show error messages if not validated.

The application contains two types of users:

* Admin user
* Applicants

1. The Admin user can be added as a static user in the database.

*(eg: username “****gmsdmin@sample.com”*** *and password can be used* ***admin123*** *for admin users).*

1. The applicants can be logged in after the registration.
2. The applicant should use his/her email address as login id for the registration.
3. For the already registered applicants, they can enter their email address and password and advance directly to the application entry / update process.
4. **Applicant Registration**
5. In the registration page, the applicant has to key in detail like email, first name, last name, country.
6. The applicant also needs to specify his/her email address.
7. Once the applicant is registered, all details should be inserted to the user table. (*no separate table required*)

**Validations:**

1. Email, first name, Last name, password, confirm password is required.
2. Email format should be validated.

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|  |  |  |  |
|  | **Register** |  |  |
|  | Sign up for applying grant programs | | |
|  |  |  |  |
|  | Email |  |  |
|  |  | |  |
|  |  |  |  |
|  | First Name |  |  |
|  |  | |  |
|  |  |  |  |
|  | Lat Name |  |  |
|  |  | |  |
|  |  |  |  |
|  | Password |  |  |
|  |  | |  |
|  |  |  |  |
|  | Confirm Password |  |  |
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1. **Admin Module**

This module is used by admin user for

* Creating Grant Programs.
* Review Applicants.
* Admin user creates a list of calls for the Applications. ie: once the Admin used is logged in, two menus (Grant programs and Review) should be shown on the left panel.
* By selecting the *Grant programs*, the admin user should be able to Add/Edit/Delete Grant Programs. And the Review menu is used to approve/reject grants for the applicants.

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|  |  |  |  |  |  |  |
| Grant Program |  | **Grant Name** | **Program Code** | **Start Date** | **End Date** |  |
| Review |  | PM Grant Program | PMG | 24-11-2020 | 24-11-2021 |  |
|  |  | WBK Program | WBKPG | 20-02-2019 | 20-18-2020 |  |
|  |  |  |  |  |  |  |
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* 1. **Grant Programs Screen**
* Please use a grid to Add/Edit/Delete Grant Programs.
* Status should be a drop down and use a date picker for date fields.

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|  |  |  |  |  |  |  |
|  | **Grant Program Name** | **Program Code** | **Start Date** | **End Date** | **Status** |  |
|  | PM Grant Program | PMG | 24-11-2020 | 24-11-2021 | Active V |  |
|  | WBK Program | WBKPG | 20-02-2019 | 20-18-2020 | Inactive V |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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**Validations:**

* Program Name, Program Code, Start Date, End Date, Status are required.
* Start date should be less than end date.
  1. **Review Screen**

Admin reviews the applicants and approve/short list applicants for grant

* This Screen is used by admin users to review the applicant details applied for grant. This will list out all applicants and admin should be able to edit the reviewer status (drop down) field only.
* Once the admin reviews and updates the review status the same should be reflected in the Applicant table also.

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|  |  |  |  |  |  |  |
|  | **Applicant Name** | **Program Code** | **Country** | **Application Status** | **Reviewer Status** |  |
|  | Anil M | PMG | India | Completed | Approved V |  |
|  | John Lennon | WBKPG | US | Submitted | Rejected V |  |
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1. **Applicant Module**

This module provides the functionality of adding applicant details like Basic Information, Education, Employment details.

* Once the applicant login after registration, the basic details should be auto populated in this screen.
* Grant program name should be auto populated form grant table.
* Applicant basic and contact details should be saved to ApplicantDetailtable and Educational details should be added to EducationalDetail table.
* Inline editor grid can be used for adding Educational details.

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| --- | --- | --- | --- | --- |
| Grant Program |  | V |  | drop down |
|  |  |  |  |  |
| **Applicant Details** | | | | |
|  |  |  |  |  |
| First Name |  |  |  |  |
|  |  |  |  |  |
| Last Name |  |  |  |  |
|  |  |  |  |  |
| Email |  |  |  | non editable |
|  |  |  |  |  |
| Date of Birth |  |  |  |  |
|  |  |  |  |  |
| Country |  | V |  | drop down |
|  |  |  |  |  |
| State |  | V |  | drop down |
|  |  |  |  |  |
| Physically Disabled? | |  |  | radio button |
| **Contact Details** | | | | |
|  |  |  |  |  |
| Address |  |  |  |  |
|  |  |  |  |  |
| City |  |  |  |  |
|  |  |  |  |  |
| Postal Code |  |  |  |  |
|  |  |  |  |  |
| Mobile |  |  |  |  |
|  |  |  |  |  |
| Phone |  |  |  | drop down |
|  |  |  |  |  |
| **Educational Details** | | | | |
|  |  |  |  |  |
| **Course Name** | **Country** | **Institution Name** |  | **Year of Completion** |
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|  | |  | | --- | |  | | |  |  | | --- | --- | | **Submit** | **Cancel** | |  |  |
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**Database tables**

1. **UserInfo**

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Description** |
| UserId | Integer | Primary key |
| First Name | Varchar2 |  |
| Last Name | Varchar2 |  |
| UserName | Varchar2 | email id |
| Password | Varchar2 |  |
| UserType | Varchar2 | User type should be Admin/Applicant |
| CreateDate | Datetime |  |

1. **GrantProgram Table**

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Data Type** | **Description** |
| GrantId | Integer | Primary key |
| Grant Program Name | Varchar2 |  |
| Program Code | Varchar2 |  |
| Start Date | datetime |  |
| End Date | datetime |  |
| Status | Boolean |  |

1. **ApplicantDetail table**

|  |  |  |
| --- | --- | --- |
| **Field name** | **Data Type** | **Description** |
| ApplicantId | Integer | Primary key |
| GrantId | Integer | Foreign key - references Grant table |
| FirstName | NVarchar |  |
| LastName | NVarchar |  |
| Email | NVarchar |  |
| DateofBirth | datetime |  |
| Country | Integer |  |
| State | Integer |  |
| PhysicallyDisabled | boolean |  |
| Address | varchar2 |  |
| City | varchar2 |  |
| PostalCode | varchar2 |  |
| Mobile | varchar2 |  |
| Phone | varchar2 |  |
|  |  |  |

1. **EducationalDetail** **table**

|  |  |  |
| --- | --- | --- |
| **Field name** | **DataType** | **Description** |
| EducationalDetailId | Integer | Primary key |
| ApplicantId | Integer | Foreign key |
| CourseName | varchar2 |  |
| Country | varchar2 |  |
| Institution Name | varchar2 |  |
| Year of Completion | Integer |  |

* Use JWT authentication.
* alert messages for CRUD operations.
* Auth guards for angular.