

Project Document Chitra 2.0

Introduction:

Welcome to our Authentication and Authorization Web API project [LIVE!](#) In today's digital age, security is of utmost importance, especially when it comes to safeguarding sensitive information and ensuring authorized access to applications. Our project addresses these concerns by providing a robust authentication and authorization system for all the office applications within our organization.

At the core of our solution lies the implementation of **JSON Web Tokens (JWT)** for authentication. JWT is a compact and self-contained mechanism for securely transmitting information between parties as a JSON object. By utilizing JWTs, we can generate and validate tokens that verify the identity of users accessing our applications.

To further enhance security, we have implemented an additional layer of protection in the form of an **app key ("Chitra-API-Key")**. This key acts as an extra security measure, providing an added level of assurance that only authorized applications can access our system. By combining the power of JWTs with the app key, we can ensure that only trusted applications within our organization can interact with our authentication and authorization web API.

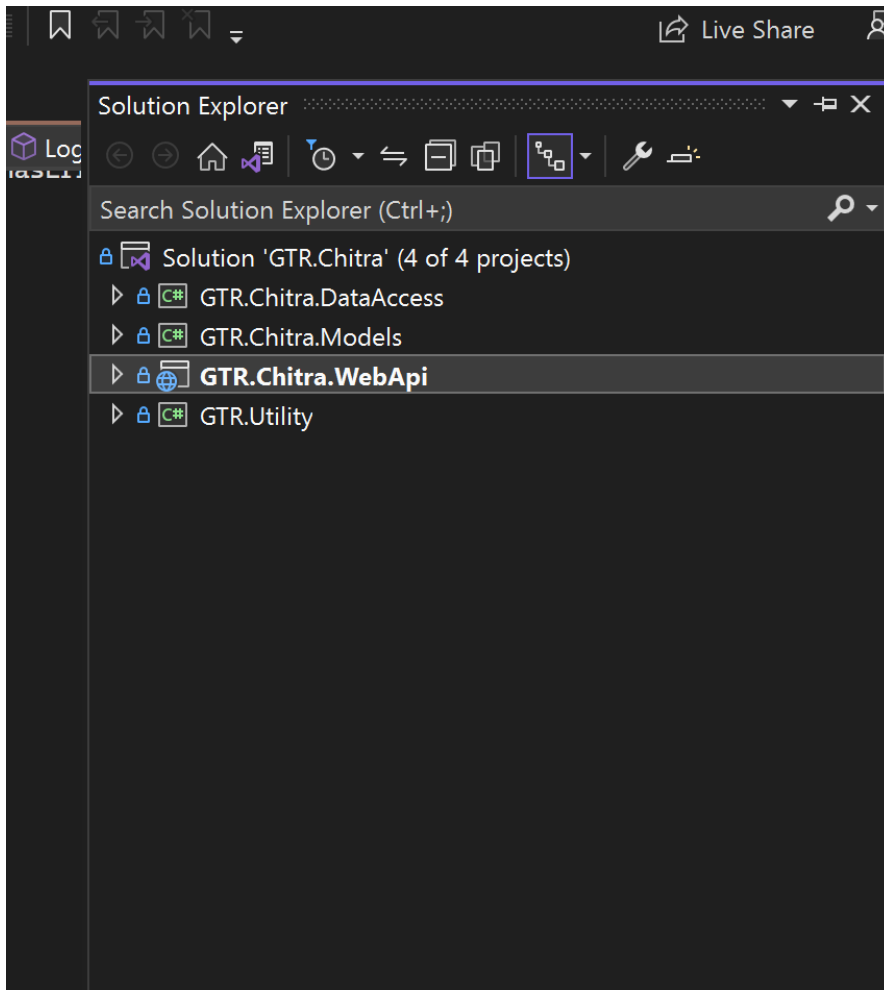
Our solution offers seamless integration with all our office applications, allowing users to authenticate themselves **using their credentials and receive a JWT token in return**. This token serves as a **digital passport, providing access to various resources and functionalities based on the user's role and permissions**.

With our authentication and authorization web API, we not only ensure the security of our applications but also provide a centralized system that simplifies user management. User roles and permissions can be easily managed and enforced, granting appropriate access to different parts of our office applications based on user responsibilities and privileges.

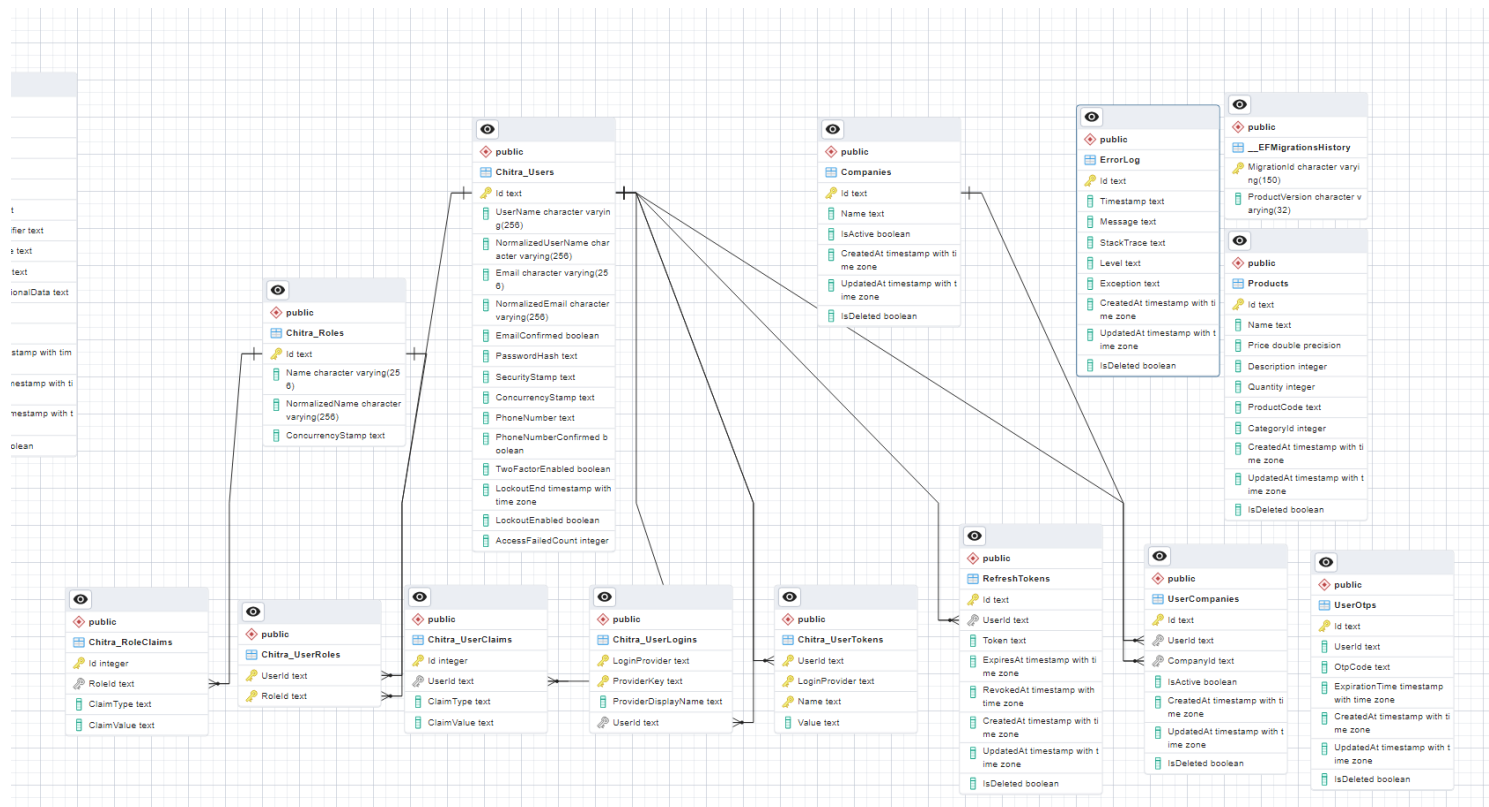
Technology:

- 1.Asp.net core Web API.
- 2.SDK: Dot-Net 7.0.
- 4.Pattern: Repository,ef-core.
- 5.Database provider: Postgres.

Project Structure:



Database Diagram:(GTRChitraDBv2)



Description:

1. Models Project:

Here find all Table Entities,Dto,Response,Request Models.

2. Data Access Project:

Here Find All Data Seeder, Migrations Files, Repository, Services (user, role, token Service), Context Class.

3. Utility Project:

Here Find Email,SMS,Security Related Services And Attribute.

4. Api Project:

Api Project Responsible for Handling All HTTP Requests.
Find All Controllers.There Added Swagger API Documentation.

- **Auth Controller** Responsible For Authentication and Authorization. User Related Rest of Staff.
- **Company Controller** Responsible For Company CRUD.
- **Product Controller** Responsible For Product CRUD.

- **Role Controller** Responsible For Manage Role CRUD And Manage User's Roles.
- **UserCompany** Controller Responsible For Manage User's Company.

5. Administration Project:

Here Consume Chitra V2 Api's .Covering Login & Registration Scene.

Registration FLOW:

1. There are Three Type Of registration processes. A User Can Register As Legal Entity Or Company Admin,As Distributor/Dealer/Agent Admin. Normal User Can Register Under Legal Entity.Example: **Object In Swagger API Documentation.**
2. **If a user registers without reference he is referred to directly by the host or Owner Company.**
3. **At first register user Should have Company as Known as default company.And register user as known as "CompanyAdmin" Role.**
4. **Every Logged In User has a "CompanyId" Claim,Every User Can Update. Their Company Information According to their Company Id.**

Login Flow:

1. **Checking User Password,**
2. **Checking email Confirmation,**
3. **Checking Has Valid Company.**
4. **Check Company Admin Is Blocking User.**
5. **If Pass All checking.**
6. **Send To Token method to bind token**

Additional Things:

1. After the Test passed We Added **Some loggers.**
2. When generating a token There Are Used **RSA KEY and Algorithms.**
3. RSA KEY File In **PublicPrivateKey.xml** in Root Folder.

What's Issue Raise Upcoming Days:(Please remind that every apps or project same user system chitra)

- ❖ 1. If a user Already in Okr with the same email.They Cannot register with the same Email from Atrai.
- ❖ User Will Confused. I never visited this site. How I registered on this site.

- ❖ In This case the user needs to Create an account with a new email,he needs to Add Company information,for different apps like Okr, atrai.
- ❖ How can users know many Apps users where I buy licenses?
- ❖ When a user Creates a Company or Legal Entity from “OKR”, Same things do from Atrai. System as known this different a Company or Legal Entity. Bills should be generated separately for different Companies or Legal Entities. because they need to use different e-mails.

Product Inventory And License Part:

1. Product Table:

Field

- a. Name
- b. ProductCode
- c. ProductKey

❖ API CRUD Operation: Time: 2 hr.

2. Product Version Table:

Field

- a. VersionName
- b. ReleaseDate
- c. Description/Feature
- d. ProductId

❖ API CRUD Operation: Time: 2 hr.

3. SubscriptionType Table:

Field

- a. Name
- b. Duration (Month or Days)
- c. IsFree
- d. NumberOfUser.

❖ API CRUD Operation: Time: 2 hr.

4. Product Price History:

Field

- a. ProductVersionId
- b. SubscriptionTypeId
- c. Date
- d. Price.

❖ API CRUD Operation: Time: 2 hr.(R&D Depends On UI How To Store Data).

5. Combined product all Info Price List API:

Return Data Field

- a. ProductVersionId
- b. ProductVersionName
- c. SubscriptionTypeId
- d. SubscriptionTypeName
- e. Feature list
- f. Date
- g. Price.

❖ API CRUD Operation: Time: 30m.

6. Billing:

Field

- InvoiceNo
- CompanyId
- SalesDate
- SubTotal
- DiscountPrice.
- GrandTotal.
- Vat/Tax.
- Others

SubProductDetails

- productVersionId
- SubscriptionId
- Price
- Quantity
- Total

❖ API Insert/Update Operation: Time: 4 hr.(R&D Depends On UI How To Store Data).

7.Product Stock:

Field

- ProductversionId
- SubscriptionId
- Stock In
- Stock out
- Month
- Year

❖ API Insert/Update Operation: Time: 4 hr.(R&D Depends On UI How To Store Data).

❖ Product Stock report . Time: 1 hr

❖ Product Stock Report Availability. Time: 1 hr

Chitra Parts(8 hr)

1. Software License

Field

- a. ProductVersionId

- b. SubscriptionId
- c. CompanyId
- d. TotalLicenseBuy
- e. Number Of Users Used.
- f. Expired Date

2. SoftwareLicenseAssign

- a. ProductVersionId
- b. CompanyId
- c. UserId

Integration and testing:

1. Time Depends On the Integration Process.

Security Product License Lifecycle:

1. If a Legal Entity successfully subscribed to a product. Invoice generated “SoftwareLicense” and “SoftwareLicenseAssign” Table Automatically Populated basis on which subscription subscribe. If any Product is Free trial also Do same Process.
2. On Login time Added All Permission Roles, license Flag In User Claim Payload.

NOTE: R&D Need How Partner Can Sell Product, What is Policy of Partner Selling. What is the Process of Selling.