

How to Use – EPLQ Web Application

This section explains how to use the EPLQ (Efficient Privacy-Preserving Location-Based Query) system as both **Admin** and **User**. Follow the steps carefully to test every module of the project.

Accounts for Testing

The following accounts are provided for evaluation purposes:

Admin Account

- Email - admin@gmail.com
- Password - admin123

User Account

- Email - user@gmail.com
- Password - user123

Roles are managed in Firebase and cannot be changed from the website.

Step 1 – Opening the Project

1. Open the deployed project link or [index.html](#).
2. You will see a **card selection page** with:
 - Register
 - Login
 - Admin
 - User

To open Admin/User pages you must first login.

Step 2 – User Registration/Login

1. Click **Register** card
2. Enter:
 - Email
 - Password
3. Click **Register**
4. Expected behavior:
 - account created in Firebase Authentication
 - success alert displayed
 - console logs registration event with timestamp

Step 3 – Login

1. Open **Login**
2. Enter registered email & password
3. Click **Login**

System behavior:

- if credentials are valid → redirected to correct dashboard
- if role = admin → redirected to **Admin Dashboard**
- if role = user → redirected to **User Dashboard**
- if wrong credentials → error alert is shown

Every login action is logged in the console with timestamp.

Step 4 – Admin Module Usage

After logging in as admin:

Set Passphrase

- Enter passphrase
- Click **Set Passphrase**
- Used later for **encryption / decryption**
- (Remember the passphrase)

Upload POI (Point of Interest)

1. Fill POI form (name, category, description, location etc.)
2. Upload POI

Expected result:

- POI stored in Firestore
- success alert
- console log event with timestamp

Logout

- Click **Logout**
- redirected to login page
- logout logged in console

Unauthorized Access Protection

If admin page opened without login:

- alert shown
- redirected to login page

Step 5 – User Module Usage

After logging in as normal user:

Set Passphrase

Required before searching encrypted POIs.

Search Data (Decrypt POI)

1. Enter category or keyword
2. Enter correct passphrase
3. Click **Search**

Expected results:

- matching POIs retrieved from Firestore
- decrypted results displayed
- “No results found” shown for unmatched terms
- errors logged with message

Logout

Same as admin module.

System Modules Overview

- Admin Register
 - Admin Login
 - Upload encrypted POI data
 - User Register
 - User Login
 - Search & decrypt POI data
 - Logging of every key operation
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Logging Information

The system logs:

- login
- logout
- POI upload
- search
- error states

Each entry includes:

- action name
- user email
- timestamp

Logs are visible in **browser console** only.

Local Deployment Notes

- project runs in browser
 - Firebase credentials must be added to `firebase.js`
 - works on localhost or GitHub Pages
 - no backend server required
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Important Usage Notes

- Admin role is assigned in Firebase — not via UI
 - Provided credentials must be used for evaluation
 - Database security rules must allow read/write for testing
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Thats it 😊