# **Project Overview**

### **What is this project?**

This is a **Blog Platform API** built with **FastAPI**, designed with robust **Role-Based Access Control (RBAC)**, allowing users to create, manage, and interact with blog content. It supports:

* ✅ **User authentication & authorization** (JWT-based)
* ✅ **Multiple user roles** (like admin, moderator, author, reader)
* ✅ **Blog posts & comments** with full CRUD
* ✅ **Content moderation workflows** (flag & review)
* ✅ **Likes for posts & comments** for social engagement
* ✅ **Admin analytics & dashboards** for platform insights

### **Project Goals**

1. **Secure, scalable API**
   * Use FastAPI to deliver a high-performance, type-safe, async API server.
   * JWT authentication to secure endpoints.
2. **Granular permissions & RBAC**
   * Implement different user roles (admin, moderator, author, user).
   * Ensure only authorized users can perform sensitive actions (create, edit, delete, moderate).
3. **User-generated content & interaction**
   * Let users create posts, comment on posts, like/unlike content.
4. **Maintain quality with moderation tools**
   * Allow users to flag inappropriate posts/comments.
   * Enable moderators/admins to review flagged content.
5. **Transparency & insights for admins**
   * Provide API endpoints for platform statistics (counts of users, posts, comments, flags, likes).
6. **Clean, extendable design**
   * Structured endpoints and data models to easily support features like tags, notifications, or media uploads later.

### **API Endpoints Table**

|  |  |  |
| --- | --- | --- |
| **Module** | **Method & Path** | **Description** |
| 🔐 **Auth & Users** | POST /auth/register | Register new user |
|  | POST /auth/login | Login user & get JWT |
|  | POST /auth/logout | Logout user |
|  | POST /auth/refresh | Refresh token |
|  | GET /auth/me | Current user profile |
| 🛠 **Roles & RBAC** | GET /roles | List all roles |
|  | POST /roles | Create role |
|  | PUT /roles/{role\_id} | Update role |
|  | DELETE /roles/{role\_id} | Delete role |
|  | POST /roles/{role\_id}/assign | Assign role to user |
|  | POST /roles/{role\_id}/revoke | Revoke role from user |
| 📝 **Blog Posts** | GET /blogs | List all blog posts |
|  | GET /blogs/{blog\_id} | Get single blog post |
|  | POST /blogs | Create blogpost |
|  | PUT /blogs/{blog\_id} | Update blogpost |
|  | DELETE /blogs/{blog\_id} | Delete blogpost |
| ❤️ **Post Likes** | POST /blogs/{blog\_id}/like | Like or unlike a blogpost |
|  | GET /blogs/{blog\_id}/likes | Get like count & users |
| 💬 **Comments** | GET /blogs/{blog\_id}/comments | List comments on blogpost |
|  | POST /blogs/{blog\_id}/comments | Add comment |
|  | PUT /comments/{comment\_id} | Edit comment |
|  | DELETE /comments/{comment\_id} | Delete comment |
| ❤️ **Comment Likes** | POST /comments/{comment\_id}/like | Like or unlike a comment |
|  | GET /comments/{comment\_id}/likes | Get like count & users |
| 🚨 **Moderation** | GET /moderation/blogs | Flagged blogposts list |
|  | GET /moderation/comments | Flagged comments list |
|  | POST /blogs/{blog\_id}/flag | Flag blogpost |
|  | POST /comments/{comment\_id}/flag | Flag comment |
|  | POST /moderation/blogs/{blog\_id}/review | Review flagged blogpost |
|  | POST /moderation/comments/{comment\_id}/review | Review flagged comment |
| **Admin Stats** | GET /admin/stats | Dashboard stats |

## **Updated Quick Mind Map**

Blog API

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├── Auth

│ ├── /auth/register

│ ├── /auth/login

│ ├── /auth/logout

│ ├── /auth/refresh

│ └── /auth/me

│

├── Roles & RBAC

│ ├── /roles

│ ├── /roles/{id}

│ ├── /roles/{id}/assign

│ └── /roles/{id}/revoke

│

├── Blogs

│ ├── /blogs

│ ├── /blogs/{id}

│ ├── /blogs/{id}/like

│ └── /blogs/{id}/likes

│

├── Comments

│ ├── /blogs/{id}/comments

│ ├── /comments/{id}

│ ├── /comments/{id}/like

│ └── /comments/{id}/likes

│

├── Moderation

│ ├── /moderation/blogs

│ ├── /moderation/comments

│ ├── /blogs/{id}/flag

│ └── /comments/{id}/flag

│

└── Admin

└── /admin/stats