**Farm-Markets API – Documentation**

# Introduction

The Farm Markets API is built using FastAPI and MongoDB. It provides an online marketplace where farmers can list products, and buyers can purchase them securely using JWT-based authentication.

# Technology Stack

- Fast API: Web framework for building APIs  
- MongoDB: NoSQL database for storing users, products, and orders  
- Motor: Async MongoDB driver  
- JWT (JSON Web Tokens): Secure authentication mechanism  
- Passlib (bcrypt): Password hashing  
- Python-dotenv: Manage environment variables

# Authentication & Security

The API uses JWT for authentication. Tokens are generated when users log in and are blacklisted upon logout. The system ensures that:  
- Passwords are stored securely using bcrypt hashing.  
- Tokens can be invalidated with blacklist collection.  
- Role-based access control is implemented (farmer or buyer).

# Environment Variables

The following environment variables are used in this project:  
- SECRET\_KEY: Secret key for JWT signing  
- ALGORITHM: JWT algorithm (default HS256)  
- ACCESS\_TOKEN\_EXPIRE\_MINUTES: Token expiry time  
- MONGO\_URL: MongoDB connection string  
- MONGO\_DB: Database name

# API Endpoints

## Users

POST /users/register → Register a new user  
POST /users/login → Authenticate user and return JWT  
GET /users/me → Get current logged-in user details

## Farmers

POST /users/register → Create farmer profile  
GET /farmers/{id} → Get farmer details

## Buyers

POST /users/register → Create buyer profile  
GET /buyers/{id} → Get buyer details

## Products

POST /products → Add a new product (Farmer only)  
GET /products → List all products  
PUT /products/{id} → Update product (Farmer only)  
DELETE /products/{id} → Delete product (Farmer only)

## Orders

POST /orders → Place an order (Buyer only)  
GET /orders → List all orders of a buyer  
GET /orders/{id} → Get order details

## Logout

POST /logout → Invalidate JWT token (Blacklist mechanism)

# Usage Instructions

1. Clone the repository  
2. Install dependencies from requirements.txt  
 pip install -r requirements.txt  
3. Set environment variables in a .env file  
4. Run the FastAPI server:  
 uvicorn app.main:app --reload  
5. Access API documentation at http://127.0.0.1:8000/

# Benefits

## For Farmers

- Provides a direct online marketplace to sell their products.  
- Eliminates middlemen, ensuring better profit margins.  
- Easy product listing and management.  
- Builds trust with verified buyer interactions.

## For Buyers

- Access to fresh farm produce directly from farmers.  
- Transparent pricing without middleman commissions.  
- Wide choice of products with quantity and price details.  
- Secure transactions with role-based access.

# Conclusion

The Farm Markets API creates a digital bridge between farmers and buyers, enhancing trust, transparency, and profitability. By leveraging FastAPI and MongoDB, the platform ensures secure authentication, scalability, and smooth user experience. This solution empowers farmers to reach wider markets while offering buyers better access to fresh and affordable produce.