



## **Backend Developer Technical Assessment**

**Position:** Backend Intermediate Developer

**Duration:** 7 days from today

**Technologies:** Django Rest Framework

**Additional Tools/Technologies:** Python, JWT, Django channels, Postgresql, TimescaleDB, Digital Ocean, CI/CD, Docker.

### **Assessment Overview:**

#### **Authentication Flow:**

- Implement user authentication using Django's built-in authentication system or Django Rest Framework's token-based authentication.
- Ensure secure password hashing and storage.
- Include endpoints for user registration with OTP validation and email verification, login, logout, and password reset.
- Implement unit tests for the authentication flow endpoints.

#### **Assignment Tracking(the assignments are real-time updated data):**

- Design and implement a Django model for tracking assignments, including necessary fields like assignment name, description, status “todo, in progress, done, error”, created at (timestamp), and updated at(timestamp) and assignee.
- Create API endpoints to retrieve assignment data with sorting, pagination, filtering, and searching capabilities.
- Implement CRUD operations for assignment tracking (Create, Read, Update, Delete).
- Secure the API endpoints with appropriate permissions.

#### **Database Management:**

##### **PostgreSQL Setup:**

- Set up PostgreSQL database and define necessary schemas for authentication and assignment tracking.
- Required: Demonstrate knowledge of TimescaleDB by optimizing queries or setting up time-series data.

#### **Real-time Updates:**

##### **Django Channels Integration:**

- Integrate Django Channels for real-time updates on assignment data changes.

#### **Deployment and CI/CD:**

**Containerization and Deployment:**

- Containerize the Django application using Docker.
- Set up deployment on Digital Ocean.
- Implement CI/CD pipelines using Jenkins or GitHub Actions for automated testing and deployment.

**Submission Details:**

Please create a private GitHub repository and invite the following email addresses: [ramy@attraxia.io](mailto:ramy@attraxia.io) and [moncef.reggam@attraxia.io](mailto:moncef.reggam@attraxia.io). You can push your code to this repository as you progress, and don't hesitate to submit your work even if it's unfinished.

**Important Notes:**

- Completion is not a strict requirement; we value the quality of code over rushed submissions.
- Feel free to ask any questions if you need clarification on any aspect of the assessment.

We're looking forward to reviewing your work and getting to know you better through this assessment. If you have any questions or need further assistance, please don't hesitate to reach out.

Best regards,