Zenskar API Integration Documentation

1. Environment Setup

To set up the environment for the project, follow these steps:

1.1 Install Python

Ensure you have Python 3.x installed on your machine. You can download the latest version of Python from Python's official website.

1.2 Install Required Libraries

Make sure you have `requests` and `python-dotenv` installed. These libraries are required for making HTTP requests and loading environment variables.

Run the following command in your terminal to install them:

```
bash
Copy code
py -m pip install requests python-dotenv
```

1.3 Set Up Environment Variables

Create a `.env` file in your project's root directory and add the following:

```
env
Copy code
BASE_URL=https://api.zenskar.com
API_KEY=your_api_key_here
ORG_ID=your_org_id_here
```

Make sure to replace `your_api_key_here` and `your_org_id_here` with your actual API key and organization ID.

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2. API Endpoints Used

2.1 Create Customer

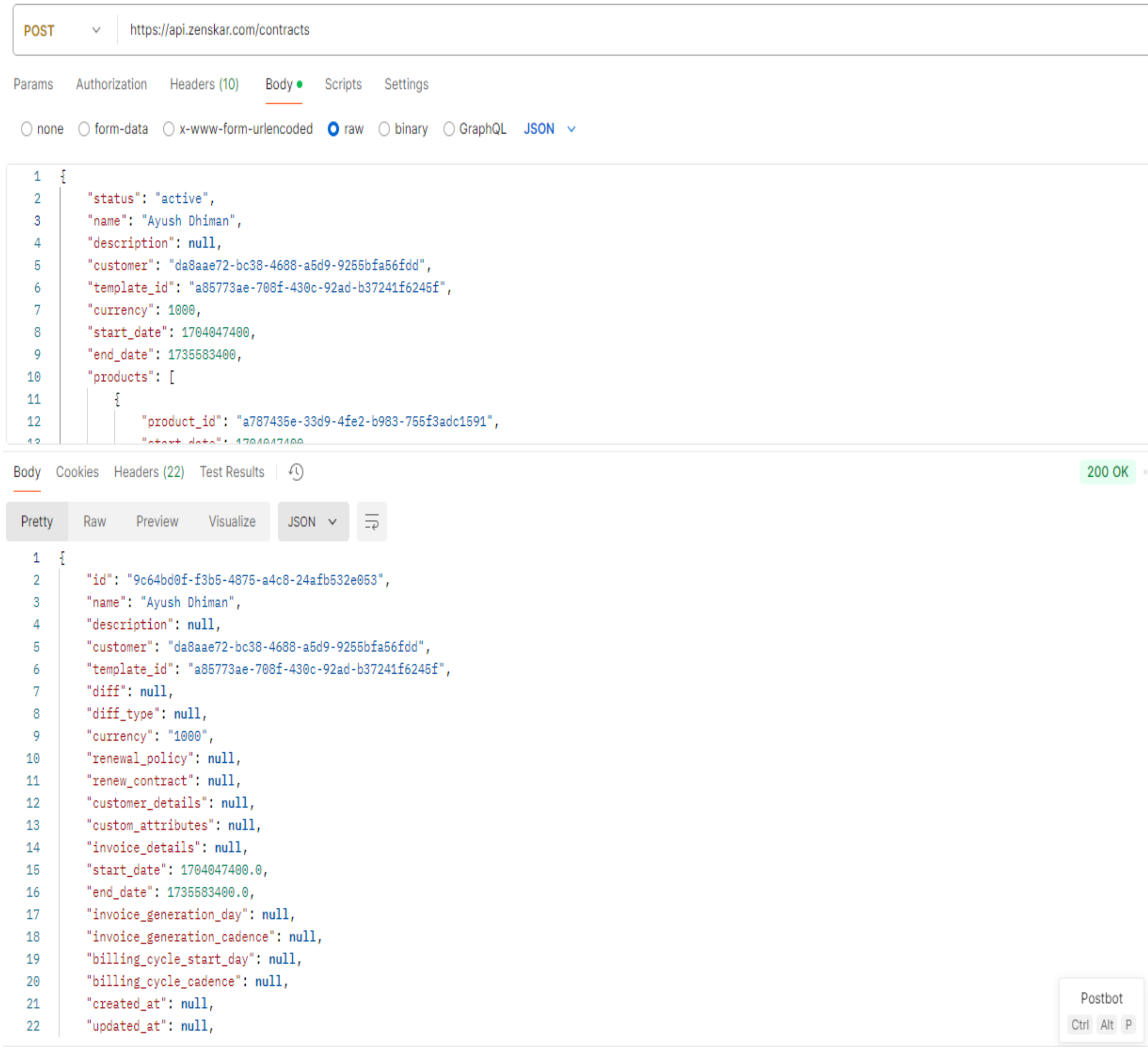
- **Endpoint:** `POST /customers`
- **Description:** Creates a customer in the system with relevant details.
- **Request Data:**
    - `external_id`: Unique external identifier for the customer (e.g., `"236862834426"`).
    - `customer_name`: Full name of the customer (e.g., `"New Customer5"`).
    - `email`: Customer's email address (e.g., `"ayush25@gmail.com"`).
    - `phone_number`: Customer's phone number (e.g., `"+919811333910"`).

2.2 Create Products

- **Endpoint**: `POST /products`
- **Description**: This endpoint creates products like One Time Fee, Monthly Platform Fee, and Monthly User Fee.
- **Request Data**:
    - `name`: Name of the product.
    - `type`: Type of the product (e.g., "group", "product").
    - `billing`: Billing type (e.g., "prepaid", "postpaid").
    - `frequency`: Payment frequency (e.g., "one_time", "monthly").
    - `price`: The price of the product.

2.3 Create Contract

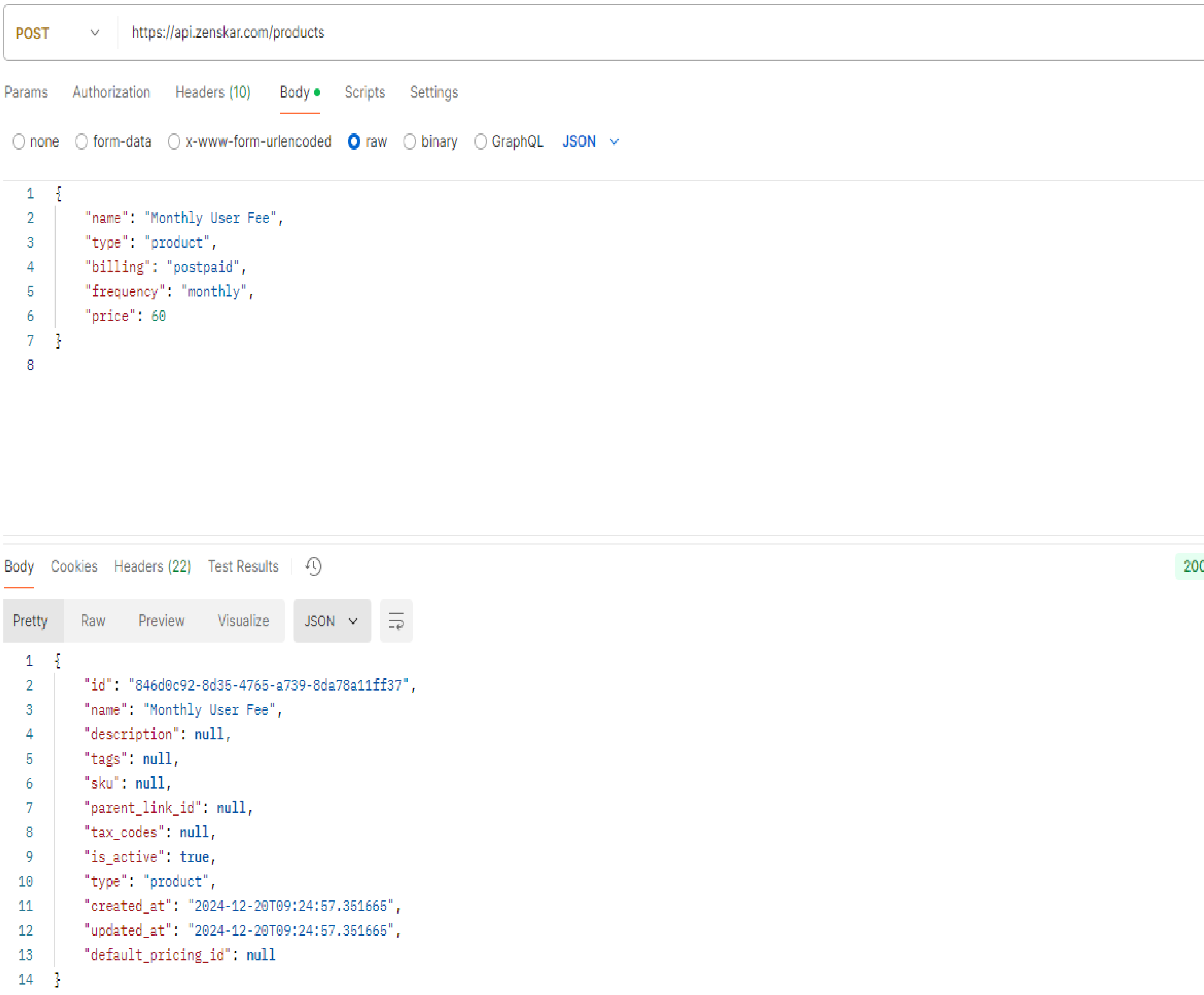
- **Endpoint**: `POST /contracts`
- **Description**: This endpoint creates a contract for the customer, associating them with products and a template.
- **Request Data**:
    - `status`: Status of the contract (e.g., "active").
    - `name`: Name of the contract.
    - `customer`: Customer ID.
    - `template_id`: Template ID.
    - `currency`: Currency associated with the contract.
    - `start_date`: Start date in Unix timestamp.
    - `end_date`: End date in Unix timestamp.
    - `products`: List of product IDs associated with the contract.


POST https://api.zenskar.com/contracts

Body: ( ) none ( ) form-data ( ) x-www-form-urlencoded (●) raw ( ) binary ( ) GraphQL JSON

```
{
    "status": "active",
    "name": "Ayush Dhiman",
    "description": null,
    "customer": "da8aae72-bc38-4688-a5d9-9255bfa56fdd",
    "template_id": "a85773ae-708f-430c-92ad-b37241f6245f",
    "currency": 1000,
    "start_date": 1704047400,
    "end_date": 1735583400,
    "products": [
        {
            "product_id": "a787435e-33d9-4fe2-b983-755f3adc1591",
```

```
{
    "id": "9c64bd0f-f3b5-4875-a4c8-24afb532e053",
    "name": "Ayush Dhiman",
    "description": null,
    "customer": "da8aae72-bc38-4688-a5d9-9255bfa56fdd",
    "template_id": "a85773ae-708f-430c-92ad-b37241f6245f",
    "diff": null,
    "diff_type": null,
    "currency": "1000",
    "renewal_policy": null,
    "renew_contract": null,
    "customer_details": null,
    "custom_attributes": null,
    "invoice_details": null,
    "start_date": 1704047400.0,
    "end_date": 1735583400.0,
    "invoice_generation_day": null,
    "invoice_generation_cadence": null,
    "billing_cycle_start_day": null,
    "billing_cycle_cadence": null,
    "created_at": null,
    "updated_at": null,
```


POST https://api.zenskar.com/products

Params Authorization Headers (10) Body Scripts Settings

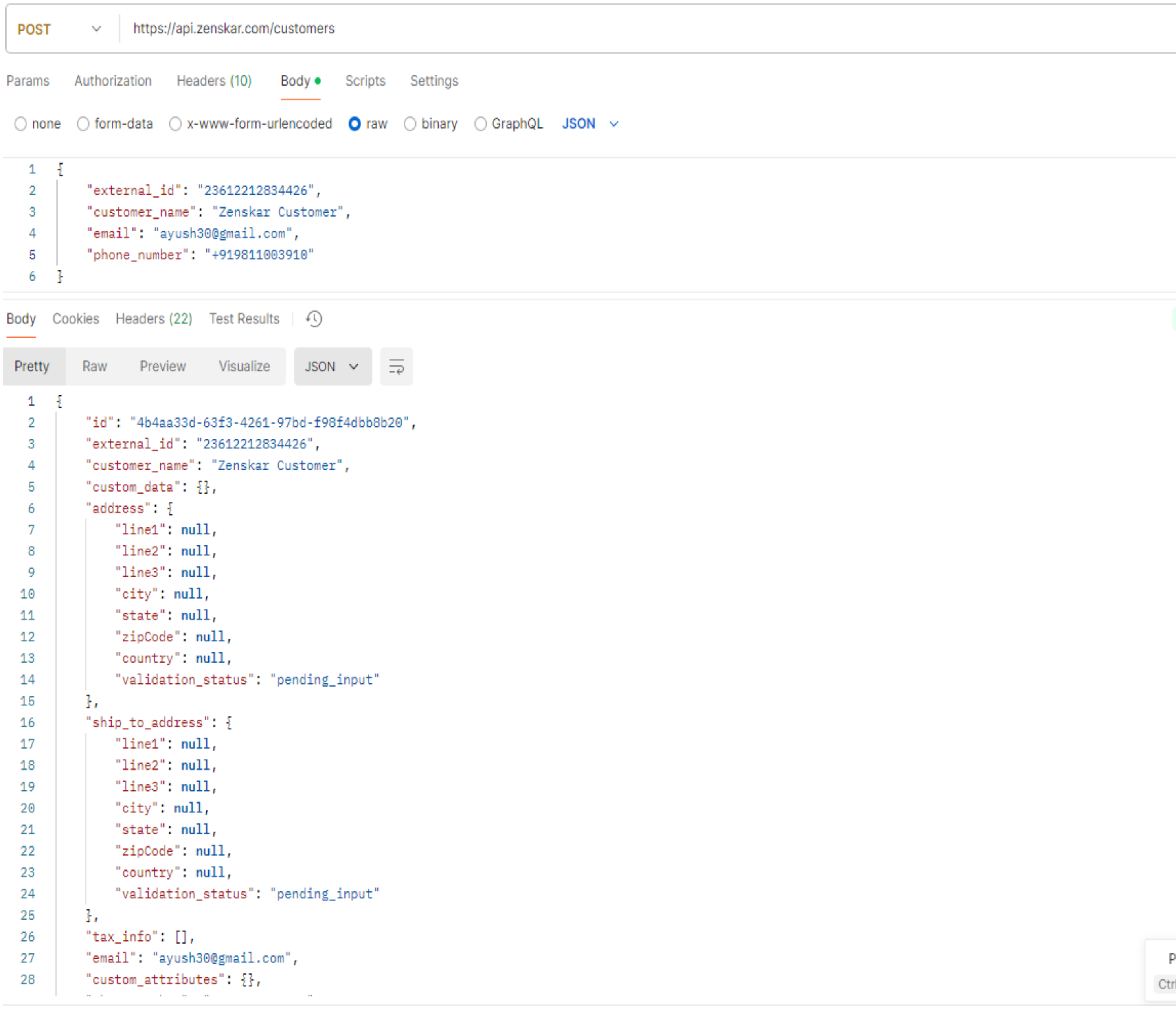
none form-data x-www-form-urlencoded [✓ raw] binary GraphQL JSON

```
{
    "name": "Monthly User Fee",
    "type": "product",
    "billing": "postpaid",
    "frequency": "monthly",
    "price": 60
}
```

Body Cookies Headers (22) Test Results 200

Pretty Raw Preview Visualize JSON

```
{
    "id": "846d0c92-8d35-4765-a739-8da78a11ff37",
    "name": "Monthly User Fee",
    "description": null,
    "tags": null,
    "sku": null,
    "parent_link_id": null,
    "tax_codes": null,
    "is_active": true,
    "type": "product",
    "created_at": "2024-12-20T09:24:57.351665",
    "updated_at": "2024-12-20T09:24:57.351665",
    "default_pricing_id": null
}
```



POST https://api.zenskar.com/customers

Params | Authorization | Headers (10) | Body | Scripts | Settings

none | form-data | x-www-form-urlencoded | [✓ raw] | binary | GraphQL | JSON

```json
{
    "external_id": "23612212834426",
    "customer_name": "Zenskar Customer",
    "email": "ayush30@gmail.com",
    "phone_number": "+919811003910"
}
```

Body | Cookies | Headers (22) | Test Results

Pretty | Raw | Preview | Visualize | JSON

```json
{
    "id": "4b4aa33d-63f3-4261-97bd-f98f4dbb8b20",
    "external_id": "23612212834426",
    "customer_name": "Zenskar Customer",
    "custom_data": {},
    "address": {
        "line1": null,
        "line2": null,
        "line3": null,
        "city": null,
        "state": null,
        "zipCode": null,
        "country": null,
        "validation_status": "pending_input"
    },
    "ship_to_address": {
        "line1": null,
        "line2": null,
        "line3": null,
        "city": null,
        "state": null,
        "zipCode": null,
        "country": null,
        "validation_status": "pending_input"
    },
    "tax_info": [],
    "email": "ayush30@gmail.com",
    "custom_attributes": {},
```

3. Python Script Explanation

3.1 Creating Customer

The `create_customer()` function sends a POST request to the `/customers` endpoint to create a customer with details like external ID, name, email, and phone number.

3.2 Creating Products

The `create_product()` function sends a `POST` request to create a product. The data is formatted as JSON and sent to the `/products` endpoint. Each product includes details such as the name, type, billing method, frequency, and price.

3.3 Creating Contract

The `create_contract()` function is responsible for creating a contract. It sends a `POST` request to the `/contracts` endpoint with the contract details, including the customer ID, template ID, and associated products. The product start and end dates are converted into Unix timestamps.

3.3 Helper Functions

- `convert_to_unix_timestamp()`: Converts an ISO 8601 date string into a Unix timestamp.
- `create_all_products()`: Calls the `create_product()` function for all products (One Time Fee, Monthly Platform Fee, and Monthly User Fee).

3.4 Run the Script

To test individual functionalities, save each function in separate Python files and run them as needed:

- **Create Customer**
  Save the create_customer function in `create_customer.py` and run:

  py create_customer.py

- **Create Products**
  Save the `create_ product` function in `create_product.py` and run:

  py create_product.py

Create Contract
Save the `create_contract` function in `create_contract.py` and run:

```
py create_contract.py
```

Or else Run: `py main.py`

5. Challenges Faced and Resolutions

5.1 Issue: Product Duplication

- **Problem**: The product creation API would fail when attempting to create a product that already existed.
- **Solution**: Ensured proper checks are in place to verify product IDs before creation, and implemented error handling to catch duplicate creation attempts.

5.2 Issue: Date Conversion

- **Problem**: Converting ISO 8601 date format to Unix timestamp caused issues with leap years and different time zones.
- **Solution**: Used Python's `datetime.fromisoformat()` method to reliably convert date strings into Unix timestamps, considering time zone differences.

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6. Conclusion

This integration with the Zenskar API involves creating products and contracts through their respective endpoints. Proper error handling and logging have been implemented to monitor the status of requests. The use of Python's `requests` library allows smooth interaction with the API, and environment variables ensure sensitive data (like the API key) are securely managed.