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Recipes API Project

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January 2024

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Introduction

Welcome to Cooking Undergraduate (CUG)

- Today, embark on a delightful culinary journey with our collection of mouthwatering recipes.
- Explore the art of cooking with a touch of passion and creativity, perfect for every aspiring chef, whether you're a seasoned cook or a kitchen novice.

Discover the Flavors

- From savory appetizers to delectable desserts, our recipes cover a spectrum of tastes and cuisines.
- Join us as we share step-by-step guides, cooking tips, and the joy of creating memorable meals from the comfort of your kitchen.

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Motivation: Crafting a Recipes API

The Power of Connectivity

In the age of digital innovation, sharing culinary experiences has become a global phenomenon. By developing a Recipes API, we can seamlessly connect with a broader community of food enthusiasts, allowing them to access our curated recipes effortlessly.

Enhancing User Experience

Imagine providing users with the convenience of browsing, searching, and even contributing their own recipes through a centralized API. This fosters a dynamic and collaborative cooking community.

Adaptability to Diverse Platforms

A Recipes API enables us to extend our culinary content beyond traditional platforms. Whether users prefer a mobile app, website, or even smart kitchen appliances, our API ensures that the joy of cooking is accessible everywhere, adapting to diverse user preferences.

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Rapid API Overview

Rapid API is a platform that provides a unified interface to access a wide range of APIs. It simplifies the process of integrating third-party services into your applications, allowing you to leverage various functionalities without the need to build them from scratch.

- Unified Interface: Rapid API offers a consistent and standardized way to interact with diverse APIs.
- Extensive Marketplace: Access a vast marketplace of APIs covering different domains such as finance, social media, weather, and more.
- Developer-Friendly: Designed with developers in mind, Rapid API provides documentation, code samples, and other resources to streamline integration.
- Scalability: Easily scale your applications by integrating additional APIs as your project grows.

Making a Request to Food Recipe API in Python

Here's an example of making a request to a api ninja food recipe
API using the Rapid API platform in Python:

```python
 1  import requests
 2  url = "https://api-ninjas.com/api/recipe"
 3  params = {
 4      "cuisine": "italian",
 5      "mealType": "dinner",
 6      "apikey": "your_api_key"
 7  }
 8
 9  response = requests.get(url, params=params)
10  # Process the API response
11  if response.status_code == 200:
12      recipe_data = response.json()
13      # Process recipe data as needed
14      print(recipe_data)
```

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Fast API: Empowering API Development with Python

- **Introduction:** FastAPI is a modern, fast (high-performance) web framework designed for building APIs with Python 3.7+. Leveraging standard Python type hints, FastAPI ensures a seamless development experience while providing exceptional efficiency and high performance.

- **Key Features:**
    - **Fast and Asynchronous:** FastAPI is built on top of Starlette and Pydantic, utilizing asynchronous programming to achieve high performance in API development.
    - **Automatic Data Validation:** With the support of Python type hints and Pydantic models, FastAPI automatically validates incoming request data. This not only enhances data integrity but also reduces the chances of errors in the application.
    - **Automatic API Documentation:** FastAPI goes beyond code execution by generating interactive API documentation (OpenAPI and JSON Schema) based on the Python type hints. This feature simplifies the understanding and testing of APIs, fostering a developer-friendly environment.

- **Benefits for Culinary Integration:** FastAPI's efficiency and automatic data validation align seamlessly with the goals of our culinary platform. By incorporating FastAPI into our development stack, we can ensure a robust and performant backend for our Recipes API. The automatic generation of API documentation further streamlines the integration process, providing developers with clear insights into the available endpoints and data structures.
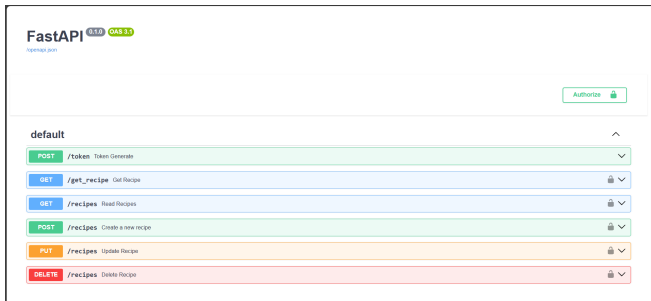
图 1: Fast API Interface

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Fast API OAuth 2.0

OAuth 2.0 is an authorization framework allowing third-party applications to access a user's resources without exposing their credentials. The process involves:

- **User Initiates Authorization:** User grants permission to a client application.
- **Authorization Grant:** Client receives an authorization grant from the user.
- **Access Token Request:** Client exchanges the grant for an access token.
- **Access Token Issued:** Authorization server provides an access token.
- **Accessing Protected Resource:** Client uses the token to access the protected resource.

Oauth Token Generation Endpoint

Listing 1: OAuth Token Generation Endpoint

```
1  @router.post("/token", summary="Generate Access Token", tags=["A
   async def token_generate(form_data : OAuth2PasswordRequestForm =
   Depends(), response_model = dict, response_description = "AccessTokengenerated
   return"access_token" : form_data.username, "token_type" : "bearer"
```

Thanks!