# API Documentation Template for Personal Expense Tracker

**Overview**

This document provides details of the API endpoints for the **Personal Expense Tracker** application. These endpoints support actions for managing and analyzing personal expenses.

**Authentication**

All API endpoints require a valid access token. Include this token in the Authorization header as Bearer <token>.

**Endpoints**

**1. GET /api/v1/expenses - Retrieve all expenses**

* **Parameters**:
  + user\_id (optional): Filters expenses by the specified user. If omitted, it retrieves all expenses for the authenticated user.
* **Description**: Retrieves all expenses for the specified user\_id.
* **Response**: Returns a JSON array of expense objects, with each containing:
  + expense\_id: Unique identifier for each expense
  + category: Category of the expense (e.g., Food, Utilities)
  + amount: Amount spent
  + description: Optional text description of the expense
  + date: Date of the expense in ISO format

**Example Response:**

json

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[

{

"expense\_id": 1,

"category": "Food",

"amount": 50.0,

"description": "Lunch",

"date": "2024-01-10T12:00:00Z"

},

...

]

**2. POST /api/v1/expenses - Add a new expense**

* **Parameters**:
  + category (string): The category of the expense.
  + amount (float): The monetary amount of the expense.
  + date (string): Date of the expense in ISO format (e.g., "2024-01-10T12:00:00Z").
  + description (optional): Brief description of the expense.
* **Description**: Adds a new expense record to the user’s expense list.
* **Response**: Returns a JSON object with a confirmation message and the expense\_id of the newly created expense.

**Example Response:**

json

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{

"expense\_id": 101,

"message": "Expense added successfully."

}

**Error Codes**

* **400** - Bad Request: The request was invalid due to incorrect input parameters.
* **401** - Unauthorized: Authentication failed; a valid access token is required.
* **404** - Not Found: The requested resource was not found.
* **500** - Internal Server Error: An error occurred on the server side.