# Weather Dashboard Flask Application Documentation

## Overview

This Flask application serves as a weather dashboard, enabling users to input a city name and retrieve current weather information via the OpenWeatherMap API.

## Requirements

- Python: Version 3.x+  
- Flask: Web framework for building the web application.  
- Requests: Library to handle HTTP requests.

### Installation

Install Flask and Requests using pip:

pip install flask requests

## Application Structure

- app.py: Main server file containing Flask routes.

- templates/: Directory containing HTML templates.

- index.html: Main template displaying the form and weather data.

## Setup and Configuration

1. API Key: Obtain an API key from OpenWeatherMap and replace 'c1c101618e28a028eae8952587d95124' in the code with your key.

## Functionality

- GET Request: Displays a form for city input.

- POST Request: Submits the form, fetches and displays weather data using the city name.

## Running the Application

Execute the following command in the terminal:

python app.py

Access the web interface at http://localhost:5000.

## Error Handling

- Invalid City Name: If the city name does not exist, the application shows an error.

- Network Issues: Errors during API requests are logged and an error message is displayed.

## Future Enhancements

- Improved error feedback.

- Enhanced UI with CSS and JavaScript.

- Additional features like weather forecasts.

## Security Considerations

Secure the API key using environment variables in a production environment.