Supporting Documents for OpenAI API Integration Code

1. Environment Setup

- **Python Installation**:

  - Ensure Python 3.7+ is installed. Download from [python.org](https://www.python.org/downloads/).

- **Dependencies**:

  - Install the OpenAI Python client library using pip:

    ```bash
    pip install openai
    ```

- **API Key Security**:

  - Use environment variables for sensitive API keys. Example:

    ```bash
    export OPENAI_API_KEY="your-secret-api-key"
    ```

    Update the script:

    ```python
    openai.api_key = os.getenv("OPENAI_API_KEY")
    ```

2. OpenAI API Access

- **Account Setup**:

  - Ensure a valid OpenAI account and an active subscription or credits.

- **API Key**:

  - Replace placeholder API key with a valid key. Do not share publicly.

3. Code Functionality Explanation

- **openai.Completion.create**:

  - Interacts with OpenAI API to generate text based on a prompt.

  - Parameters:

    - `model`: Specify model (e.g., `text-davinci-003`).

    - `prompt`: Guiding text for response generation.

    - `max_tokens`: Limits response length.

    - `temperature`: Controls creativity (0=deterministic, 1=creative).

4. Testing and Validation

- **Run the Script**:

  - Save code to `generate_email.py` and execute:

    ```bash
    python generate_email.py
    ```

- **Verify Output**:

  - Ensure the output meets requirements of professionalism, tone, and content.

5. Enhancements

- **Validation for Inputs**:

  - Ensure client data is sanitized and validated.

- **Logging and Error Handling**:

  - Add error handling:

    ```python
    import logging
    try:
        response = openai.Completion.create(...)
    ```

```
    except Exception as e:

        logging.error(f"Error generating response: {e}")
```

6. Documentation

- **API Reference**:

  - Refer to [OpenAI API documentation](https://platform.openai.com/docs/).

- **Code Comments**:

  - Add comments for better understanding.

7. Supporting Files

- **requirements.txt**:

  - Create for dependencies:

    ```

    openai
    ```

- **Environment Configuration**:

  - Use `.env` files with `python-dotenv`. Example:

    ```

    OPENAI_API_KEY=your-secret-api-key
    ```

    ```bash

    pip install python-dotenv
    ```

    ```python

    from dotenv import load_dotenv

    load_dotenv()
```

```
openai.api_key = os.getenv("OPENAI_API_KEY")
```