

# ShopBot Backend Documentation

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## Overview

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The backend of ShopBot is built using Django and integrates with Google Dialogflow to process chatbot queries. This documentation outlines the setup, API endpoints, and authentication mechanisms.

## Project Structure

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```
ShopBot/  
|-- chatbot_backend/ # Main Django backend  
|   |-- settings.py # Configuration settings  
|   |-- urls.py # API routing  
|   |-- views.py # Logic for handling requests  
|-- agent.json # Service account credentials for Dialogflow  
|-- requirements.txt # Required dependencies
```

## Installation & Setup

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### 1. Clone the Repository

```
git clone <https://github.com/manas9568/chatbot>  
cd ShopBot
```

### 2. Create and Activate a Virtual Environment

```
python3 -m venv venv  
source venv/bin/activate # On Linux/macOS
```

### 3. Install Dependencies

```
```bash  
pip install -r requirements.txt
```

### 4. Set Up Google Dialogflow Authentication

- Download the `agent.json` file from Google Cloud Console.
- Move it to the project directory ( `ShopBot/` ).
- Configure Django to use this file by adding the following in `settings.py` :

```
import os  
from pathlib import Path  
  
BASE_DIR = Path(__file__).resolve().parent.parent  
SERVICE_ACCOUNT_FILE = os.path.join(BASE_DIR, "agent.json")  
os.environ["GOOGLE_APPLICATION_CREDENTIALS"] = SERVICE_ACCOUNT_FILE
```

## API Endpoints

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### 1. Chatbot Query Endpoint

**URL:** `/api/chatbot/`

**Method:** `POST`

**Request:**

```
{  
  "query": "What is the price of a Shirt?"  
}
```

Response:

```
{
  "response": "The price of a shirt is $20."
}
```

## 2. Product List Endpoint

URL: `/api/products/`

Method: GET

Response:

```
[
  { "name": "Shirt", "price": 20 },
  { "name": "Jeans", "price": 40 }
]
```

## Troubleshooting

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### 1. "403 IAM permission denied" Error

- Ensure the correct Google Cloud IAM roles are assigned to the service account.
- Check that `agent.json` is properly referenced in `settings.py`.

### 2. "File not found: agent.json"

- Verify that `agent.json` is in the project root.
- Ensure the environment variable `GOOGLE_APPLICATION_CREDENTIALS` is set.

## Running the Server

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Start the Django development server:

```
python manage.py runserver
```

Your backend should now be accessible at `http://127.0.0.1:8000/`.

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