**README: Flask-Based Banking API**

**Project Overview**

This project is a simple banking API developed using **Flask**. The API allows users to:

* Check their account balance.
* Withdraw funds from an account.
* Deposit funds into an account.

The application is deployed on **Heroku**, making it accessible from anywhere over the internet.

**Technologies Used**

* Python 3.11
* Flask 3.1.0
* Heroku (Cloud Deployment)
* cURL for API Testing
* Git for Version Control

**Design Decisions & Challenges**

**1. Approach to the Solution**

* Implemented a simple **in-memory database** (Python dictionary) to store account balances.
* Chose **Flask** for its lightweight and easy-to-use web framework.
* Used **cURL** for quick testing of API functionality.

**2. Design Choices**

* **RESTful API structure**: Each endpoint follows standard HTTP methods (GET, POST).
* **Simple error handling**: Returns meaningful JSON responses when invalid requests are made.
* **Stateless API**: No session management; all data is stored temporarily in memory.

**3. Challenges Encountered & Solutions**

* **First-Time Deployment on Heroku**

Faced challenges deploying on Heroku for the first time and learned to use Procfile, requirements.txt, and Git-based deployment.

* **Deployment Issues (Heroku Error R10 - Boot Timeout):**

Configured Flask to use Heroku’s assigned $PORT dynamically. Additionally, used Heroku’s logs (heroku logs --tail) to debug the issue, which helped identify error messages and verify that the app was trying to bind to the wrong port.

**API Endpoints**

**1. Get Account Balance**

**Endpoint:** GET /accounts/<account\_number>/balance

**Example Request:** curl -X GET <https://secure-savannah-57890-9c2b88f4bf0c.herokuapp.com/accounts/123456/balance>

**Expected Response: {"account\_number": "123456", "balance": 1000.0}**

**2. Withdraw Funds**

**Endpoint:** POST /accounts/<account\_number>/withdraw

**Example Request: curl -X POST "https://secure-savannah-57890-9c2b88f4bf0c.herokuapp.com/accounts/123456/withdraw" \**

**-H "Content-Type: application/json" \**

**-d '{"amount": 200}'**

**Expected Response:** {"message": "Withdrawal successful", "amount": 200}

**3. Deposit Funds**

**Endpoint:** POST /accounts/<account\_number>/deposit

**Example Request: curl -X POST https://secure-savannah-57890-9c2b88f4bf0c.herokuapp.com/accounts/123456/deposit \-H "Content-Type: application/json" \-d '{"amount": 500}'**

**Expected Response:** {"message": "Deposit successful", "amount": 500}

**GitHub Repository**

The source code is available at:  
[**GitHub Repository**](https://github.com/robertifraimov97/atm_server.git)

**Live API URL**

The deployed API can be accessed at:  [**https://secure-savannah-57890-9c2b88f4bf0c.herokuapp.com/**](https://secure-savannah-57890-9c2b88f4bf0c.herokuapp.com/)