

Here's how to host your Flask application on a Raspberry Pi:

1. Set Up the Raspberry Pi

- Make sure your Raspberry Pi is running and connected to the internet.
- Update the system:

None

```
sudo apt update && sudo apt upgrade
```

- Install Python and pip if not already installed:

None

```
sudo apt install python3 python3-pip
```

2. Clone Your Flask App Repository

- Use `git` to clone Flask app from GitHub
(<https://github.com/helenwen8/PineconePrototype>):

None

```
git clone https://github.com/helenwen8/PineconePrototype.git  
cd PineconePrototype
```

3. Set Up the Environment

- Install required dependencies:

None

```
pip3 install -r requirements.txt
```

- If `requirements.txt` is missing dependencies, you may need to manually install Flask and other packages:

None

```
pip3 install flask flask-bcrypt flask-login
```

4. Configure SQLite Database

- Create the SQLite database:

None

```
python3 initialize_db.py
```

- *Optionally*, populate it with test data (FOR TESTING ONLY, DON'T RUN DURING ACTUAL SETUP):

None

```
python3 insert_test_data.py
```

5. Run the Flask App

- Start your Flask app:

None

```
python3 app.py
```

- Your app will now be available on the Raspberry Pi's IP address (e.g., http://<Raspberry_Pi_IP>:5000).

6. Make the App Accessible on the Network

- Ensure your Flask app binds to all network interfaces (`host="0.0.0.0"` in `app.run()`).
- Check your Raspberry Pi's IP address:

None

```
hostname -I
```

- Access the app from other devices using the Raspberry Pi's IP, e.g., <http://192.168.1.100:5000>.

7. Run Flask App as a Background Service

- Create a systemd service file to run the app on startup:

None

```
sudo nano /etc/systemd/system/flask_app.service
```

- Add the following:

None

```
[Unit]
Description=Flask App
After=network.target

[Service]
ExecStart=/usr/bin/python3 /path/to/your/app.py
WorkingDirectory=/path/to/your/app/folder
Restart=always
User=pi

[Install]
WantedBy=multi-user.target
```

- Reload systemd and enable the service:

None

```
sudo systemctl daemon-reload
sudo systemctl enable flask_app.service
sudo systemctl start flask_app.service
```

Your Flask app is now hosted on your Raspberry Pi! You can access it via the Pi's IP address or set up a domain name for remote access.