

Deploying Streamlit Apps to Streamlit Community Cloud

Learn how to deploy your Streamlit applications to Streamlit Community Cloud - a **free** hosting platform that makes your apps accessible to anyone in the world with just a URL.

Why Streamlit Community Cloud?

Benefits:

- 🌐 **Free hosting** - Deploy unlimited public apps at no cost
- 🚀 **Instant deployment** - Direct integration with GitHub
- 🔗 **Public accessibility** - Share your apps with anyone via a simple URL
- 🔄 **Auto-updates** - Apps automatically redeploy when you push to GitHub
- ⚙️ **Easy configuration** - Simple setup with secrets management

Important Limitations:

- 1 GB RAM per app with limited CPU resources
- Apps sleep after 7 days of inactivity (wake automatically when accessed)
- All apps are **publicly accessible** - consider authentication for sensitive data
- No persistent storage between sessions
- Shared infrastructure may have occasional performance variations

What This Tutorial Covers

This tutorial walks you through two main areas:

1. **Local Development Setup** - How to run and test your Streamlit app locally
2. **Deployment to Streamlit Community Cloud** - How to deploy your app for free worldwide access

1. Local Development Setup

Prerequisites

- Python 3.12 or higher
- OpenAI API key

Installation

1. Clone or download this repository
2. Navigate to the project directory:

```
cd Streamlit
```

3. Install dependencies:

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

4. Set up environment variables:

```
# Copy the example file
cp env.example .env

# Edit .env file and add your OpenAI API key
OPENAI_API_KEY=your_openai_api_key_here
```

5. Run the application:

```
streamlit run streamlit_app.py
```

6. Open your browser and go to `http://localhost:8501`

2. Deployment to Streamlit Community Cloud

Step 1: Prepare Your Repository

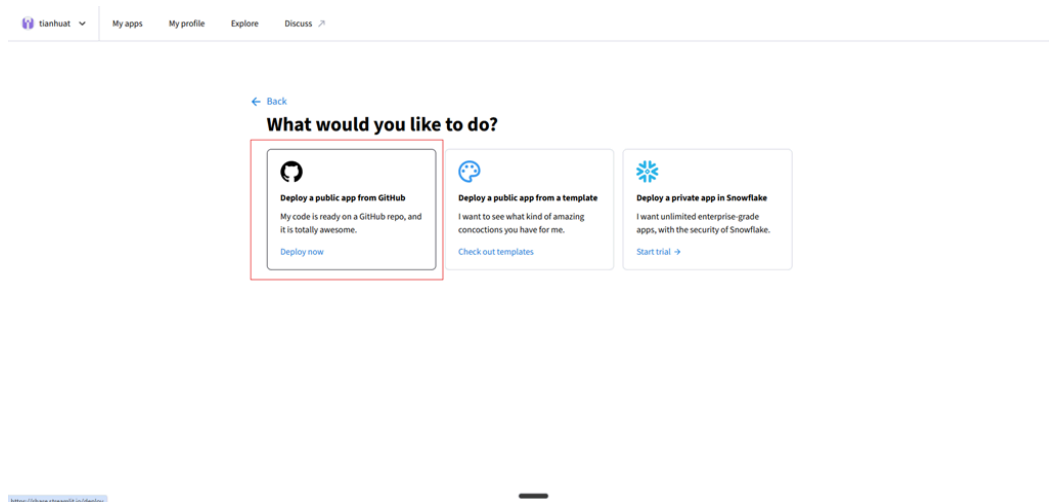
1. Push to GitHub:

```
git add .
git commit -m "Add Streamlit GPT-4o-mini chat app"
git push origin master
```

2. **Important:** Never commit your `.env` file! The `.gitignore` file is configured to exclude it.

Step 2: Deploy on Streamlit Community Cloud

1. Go to share.streamlit.io
2. Sign in with your GitHub account
3. Click "Deploy a public app from GitHub"



4. Fill in the deployment form:

- **Repository:** Select your GitHub repository (e.g., `username/streamlit_community_cloud`)

- **Branch:** master
- **Main file path:** streamlit_app.py
- **App URL (optional):** Leave as default or customize

5. Click "Advanced settings" to configure additional options (refer to Step 3 option 1 for detailed settings)

6. Click "Deploy"

The screenshot shows the 'Deploy an app' interface on Streamlit Cloud. At the top, there's a navigation bar with 'tianhuat', 'My apps', 'My profile', 'Explore', and 'Discuss'. The main content area has a 'Deploy an app' title and a 'Back' link. Below the title, there are several input fields: 'Repository' (with a GitHub icon and a 'Paste GitHub URL' link), 'Branch', 'Main file path', and 'App URL (optional)'. The 'Repository' field contains 'tianhuat/streamlit_community_cloud', 'Branch' contains 'master', 'Main file path' contains 'streamlit_app.py', and 'App URL (optional)' contains 'appcommunitycloud-uxgalikarer7ybu8km6xwt'. A green message 'Domain is available' is displayed. There are two buttons: 'Advanced settings' and 'Deploy'. At the bottom left, there's a URL 'https://share.streamlit.io/deploy'.

Step 3: Configure Secrets

Since you can't upload `.env` files to GitHub, you need to configure secrets during deployment. **You only need to choose ONE of the following three methods (Method 1 is recommended):**

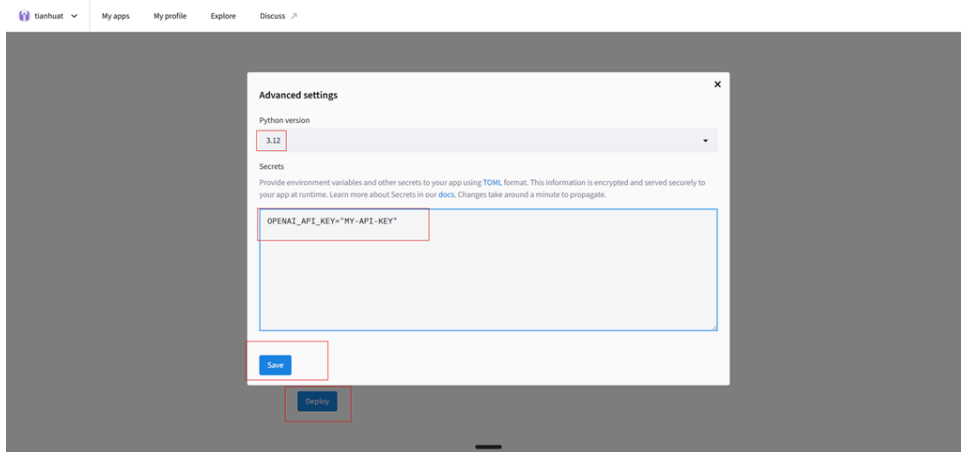
Important: Always include double quotation marks (") around your API key value in TOML format.

1. During Deployment (Recommended):

- Click "Advanced settings" in the deployment form
- Set **Python version** to 3.12
- In the **Secrets** section, add your API key in TOML format:

```
OPENAI_API_KEY = "your_openai_api_key_here"
```

- Click "Save" then "Deploy"

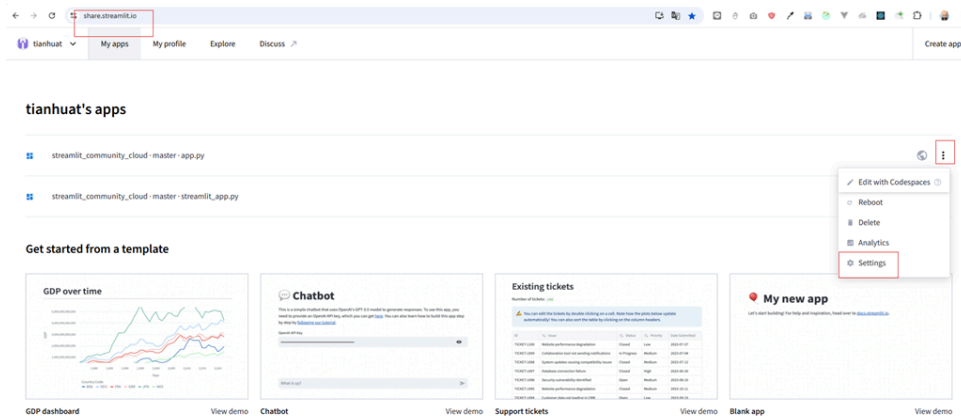


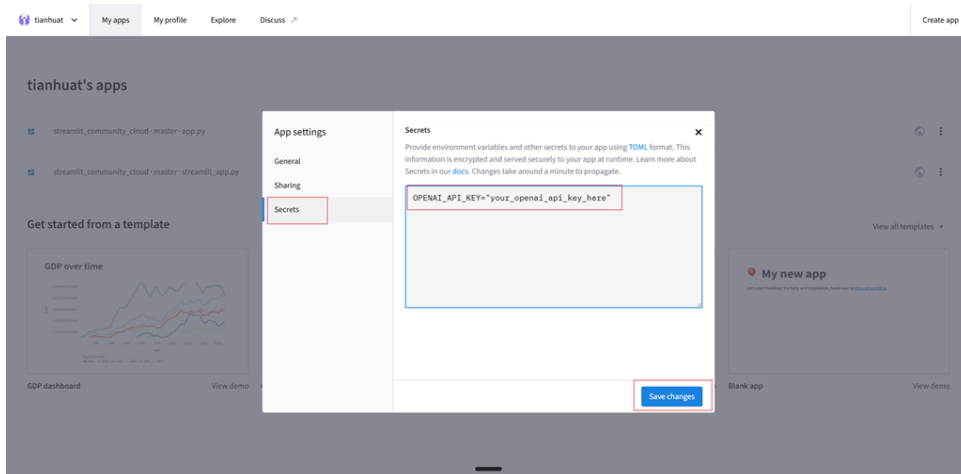
2. After Deployment (Alternative):

- Go to your deployed app's page in Streamlit Community Cloud
- Click the three dots menu (⋮) next to your app
- Select "Settings" from the dropdown menu
- In the App settings modal, click on the "Secrets" tab
- In the text area, add your API key in TOML format:

```
OPENAI_API_KEY = "your_openai_api_key_here"
```

- Click "Save changes"
- Your app will automatically restart with the new secrets





3. Local Development (Optional):

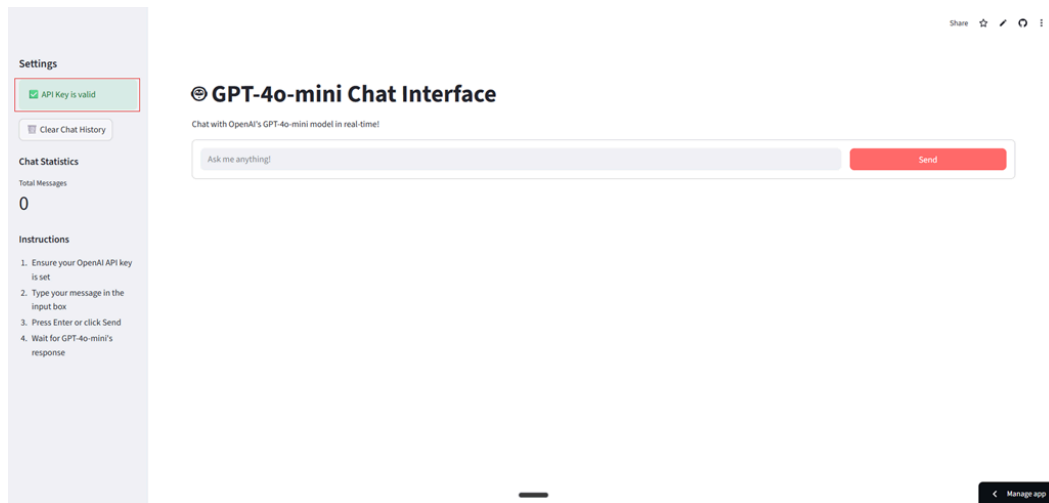
- Create a file named `.streamlit/secrets.toml` (locally only, don't commit)
- Add your secrets:

```
OPENAI_API_KEY = "your_openai_api_key_here"
```

Step 4: Verify Deployment

1. Wait for the app to build and deploy (this may take a few minutes)
2. Once deployed, you should see the **GPT-4o-mini Chat Interface** with:
 - A sidebar showing "Settings" with API key validation status
 - "Chat Statistics" showing total messages
 - "Instructions" for using the app
 - A main chat area with input box and "Send" button
3. Test the functionality:
 - Verify the API key shows as "✅ API Key is valid"
 - Try sending a test message to ensure the chat works
 - Check that responses stream in real-time

4. Your app will be available at the generated Streamlit URL



Conclusion

Congratulations! 🎉 You've successfully learned how to deploy Streamlit applications to Streamlit Community Cloud.

What you've accomplished:

- ✅ Set up local development environment for Streamlit apps
- ✅ Learned the complete deployment workflow to Streamlit Community Cloud
- ✅ Configured secure secrets management
- ✅ Deployed your app for **free worldwide access**

Your Streamlit app is now live and can be shared with anyone around the world via an URL! 🚀