

# Building Data Apps In Python With Streamlit

## Session 4: Deployment

Ari Lamstein  
[AriLamstein.com](https://AriLamstein.com)

## Course Agenda

(Big Picture)

1. Session 1: Setup & Basics
2. Session 2: "The Loop": UI & Graphics
3. Session 3: Organization: UI & Code
4. Session 4: Deployment

Now you've created an interesting app, and worked hard to make it easy to work with both for users and developers. Let's deploy it to the internet so that others can use it!

## Exercise: Deployment?

Work with a partner.

Ask them

- *Have you ever deployed an app to the internet?*
- *If yes, was it complicated / hard?*
- *If no, what do you think the process will be like?*

4 minute exercise

## Exercise: Deployment?

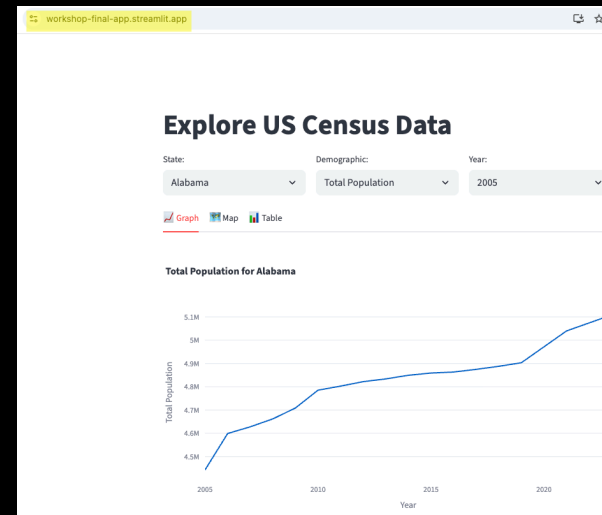
Work with a partner.

Ask them

- *Have you ever deployed an app to the internet?*
- *If yes, was it complicated / hard?*
  - I worked as a software engineer at a website called HubPages for a few years, and deployment was handled by someone else. It was a "black box" for me.
  - In R, I deployed Shiny apps. The process there was a bit more complex than it is for Streamlit.
- *If no, what do you think the process will be like?*

## Deployment Overview

- Free!
- Share URL with anyone
- Demo: <https://workshop-final-app.streamlit.app/>
- Streamlit's "Community Cloud"
- Tied to a github repo



## Deployment

- Get the code into Github
- Tell Streamlit Community Cloud about the Repo

Deploying a Streamlit app is a 2-step process. The first step is to get the code into Github. Then we need to tell Streamlit about the repo.

## Deployment

- Get the code into Github
  - Create a new repository
  - Upload files to it
- Tell Streamlit Community Cloud about the Repo

"Getting the code into Github" is itself a 2-step process.  
The first step is to create a new repository. Let's look at that.

# Creating a new repo on Github

**Create a new repository**  
Repositories contain a project's files and version history. Have a project elsewhere? [Import a repository](#).  
Required fields are marked with an asterisk (\*).

1 **General**

Owner \* Repository name \*

arilamstein /

Great repository names are short and memorable. How about [urban-sniffle](#)?

Description

0 / 350 characters

2 **Configuration**

**Choose visibility \*** Choose who can see and commit to this repository. Public

**Start with a template** Templates pre-configure your repository with files. No template

**Add README** READMEs can be used as longer descriptions. [About READMEs](#). Off

**Add .gitignore** .gitignore tells git which files not to track. [About ignoring files](#). No .gitignore

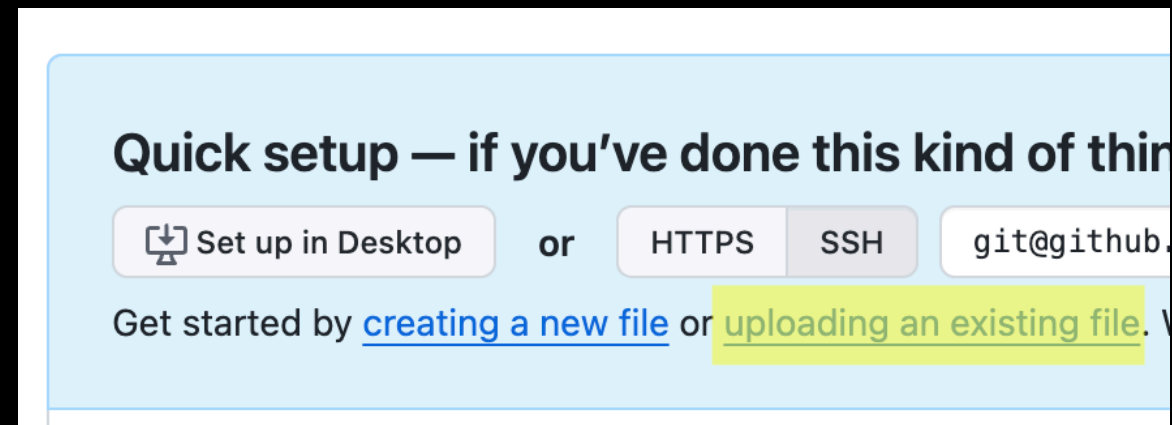
**Add license** Licenses explain how others can use your code. [About licenses](#). No license

Create repository

Your home screen on github might look different than mine. But in the upper left I see a button that says "New". When I click it I get this screen. For the name, enter something like "streamlit-workshop". Leave everything else as it is, and then click "Create repository".



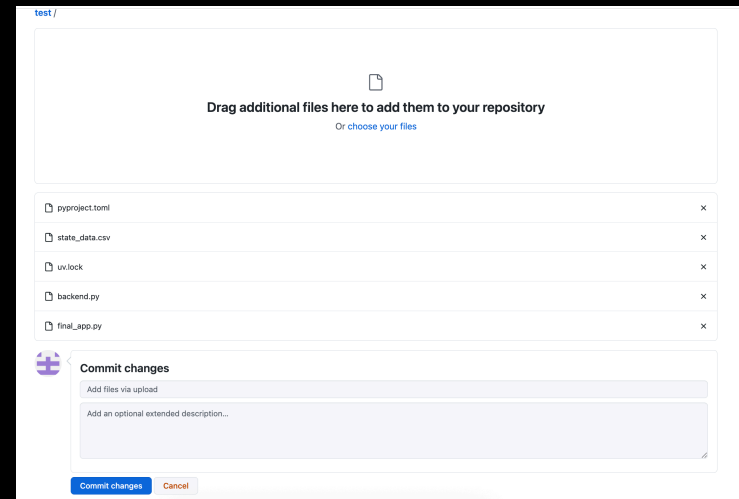
## "Upload an existing file"



You should see an option that says "upload an existing file". Click it.

## Files to Upload

1. /pyproject.toml
2. /uv.lock
3. 3-organization/state\_data.csv
4. 3-organization/backend.py
5. 3-organization/layout\_app.py



Your new repo needs to have 5 files.

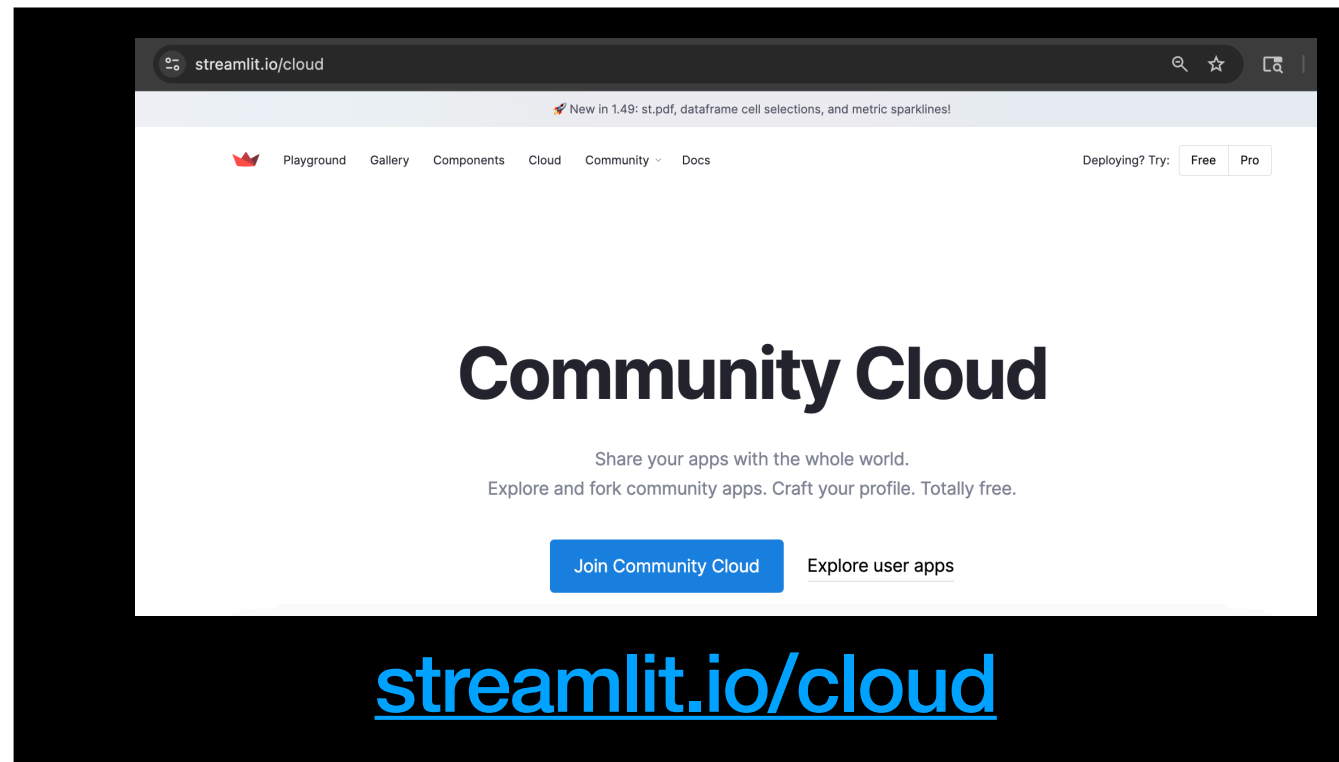
The first two are the toml file and the lock file. These are in the main directory in your repo. They tell the deployment process which version of Python your app needs, and which packages your app needs.

The other files your repo needs are for the app itself: the data it needs, the ui module and the backend module.

## Deployment

- Get the code into Github
- Tell Streamlit Community Cloud about the Repo

Now that your app is publicly accessible, let's tell Streamlit Cloud how to access it.



Please visit [streamlit.io/cloud](https://streamlit.io/cloud) and click "Join Community Cloud"

# Streamlit Community Cloud

A place for the community to publicly share  
Streamlit apps and learn from each other!

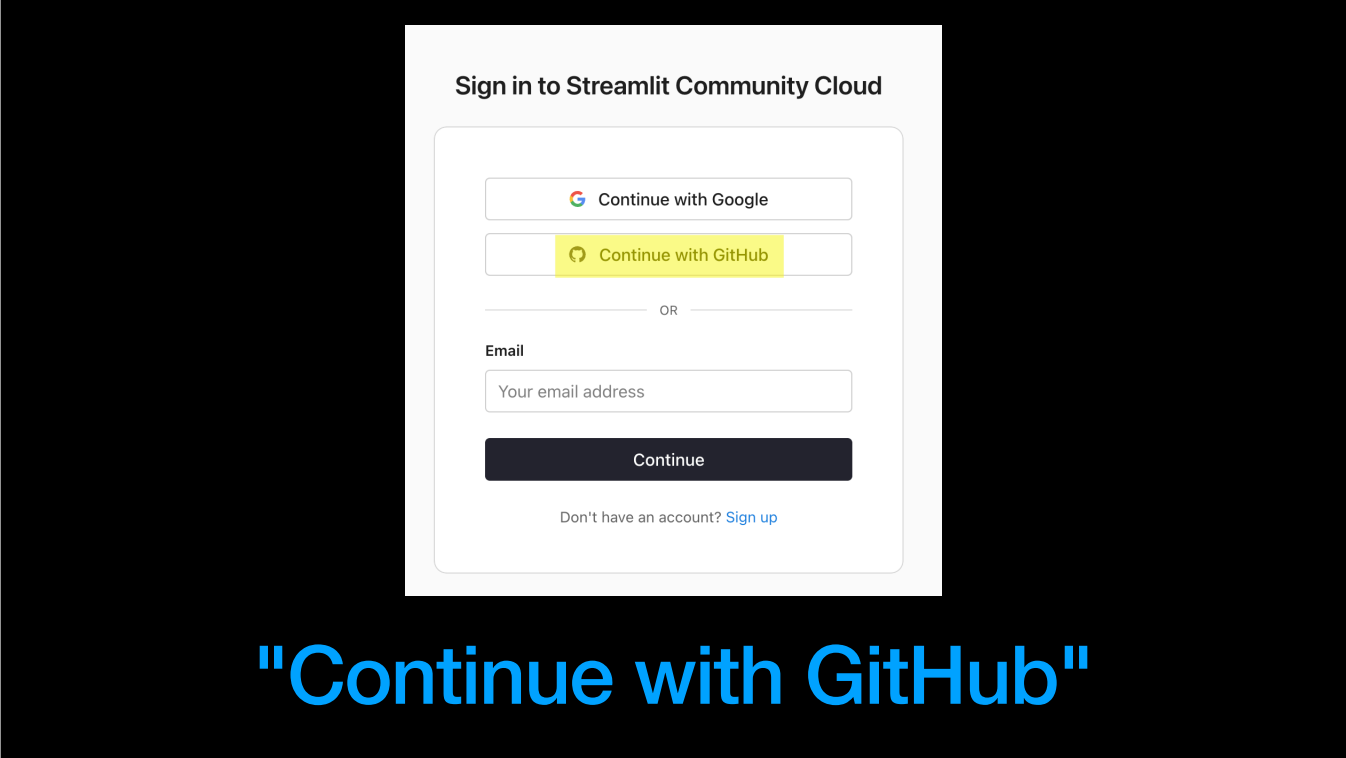
Continue to sign-in

---

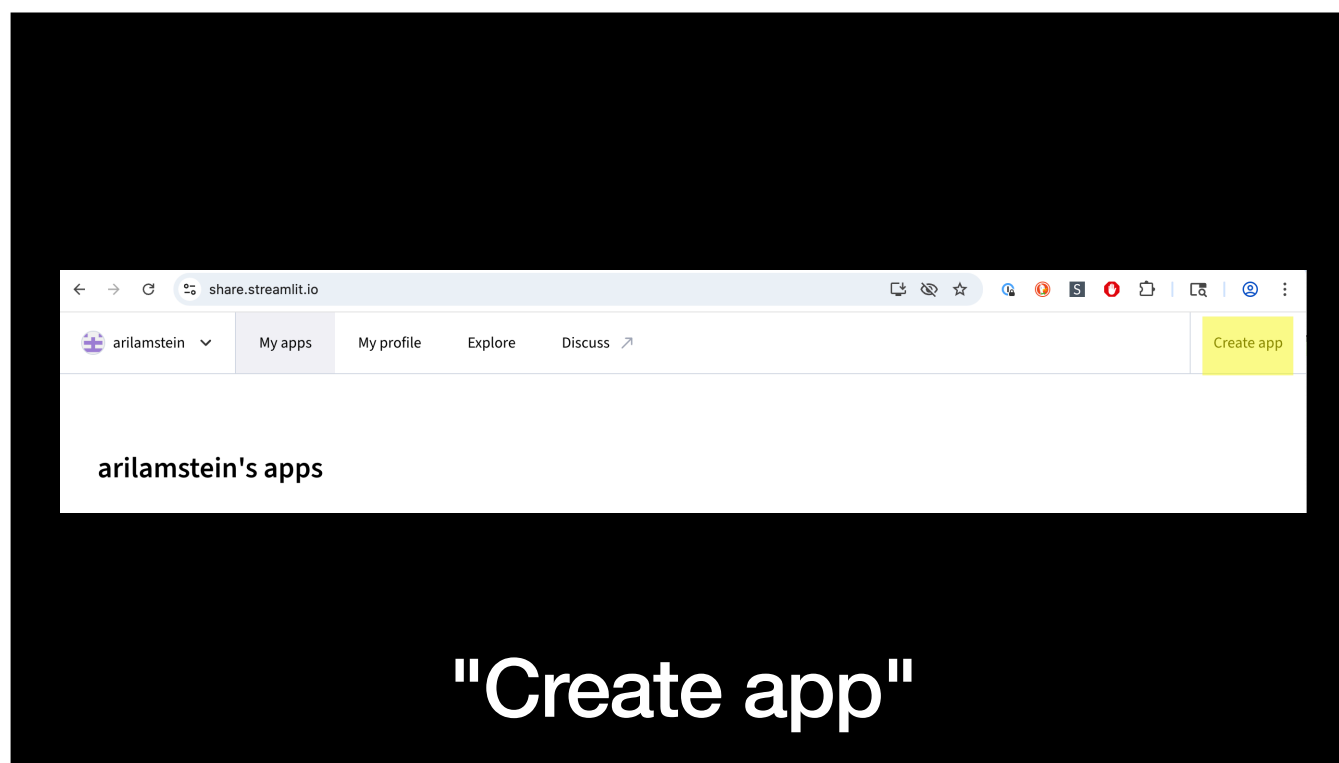
By signing in, I agree to the [Terms of Service](#) and understand  
Streamlit will process my personal information in accordance  
with its [Privacy Notice](#).

[streamlit.io/cloud](https://streamlit.io/cloud)

Click "Continue to sign-in"



Click "Continue to sign-in"



"Create app"

Click "Create app"

## What would you like to do?



### Deploy a public app from GitHub

My code is ready on a GitHub repo, and it is totally awesome.

[Deploy now](#)



### Deploy a public app from a template

I want to see what kind of amazing concoctions you have for me.

[Check out templates](#)



### Deploy a private app in Snowflake

I want unlimited enterprise-grade apps, with the security of Snowflake.

[Start trial →](#)

# "Deploy a public app from GitHub"

Click "Deploy a public app from GitHub"



## Select your Repo

1. **Repository** box: Copy the URL for your new repo
2. **Main file path** box: Select your app file (ex. layout\_app.py)
3. Click **Deploy**

### Deploy an app

Repository

arilamstein/repo

Branch

master

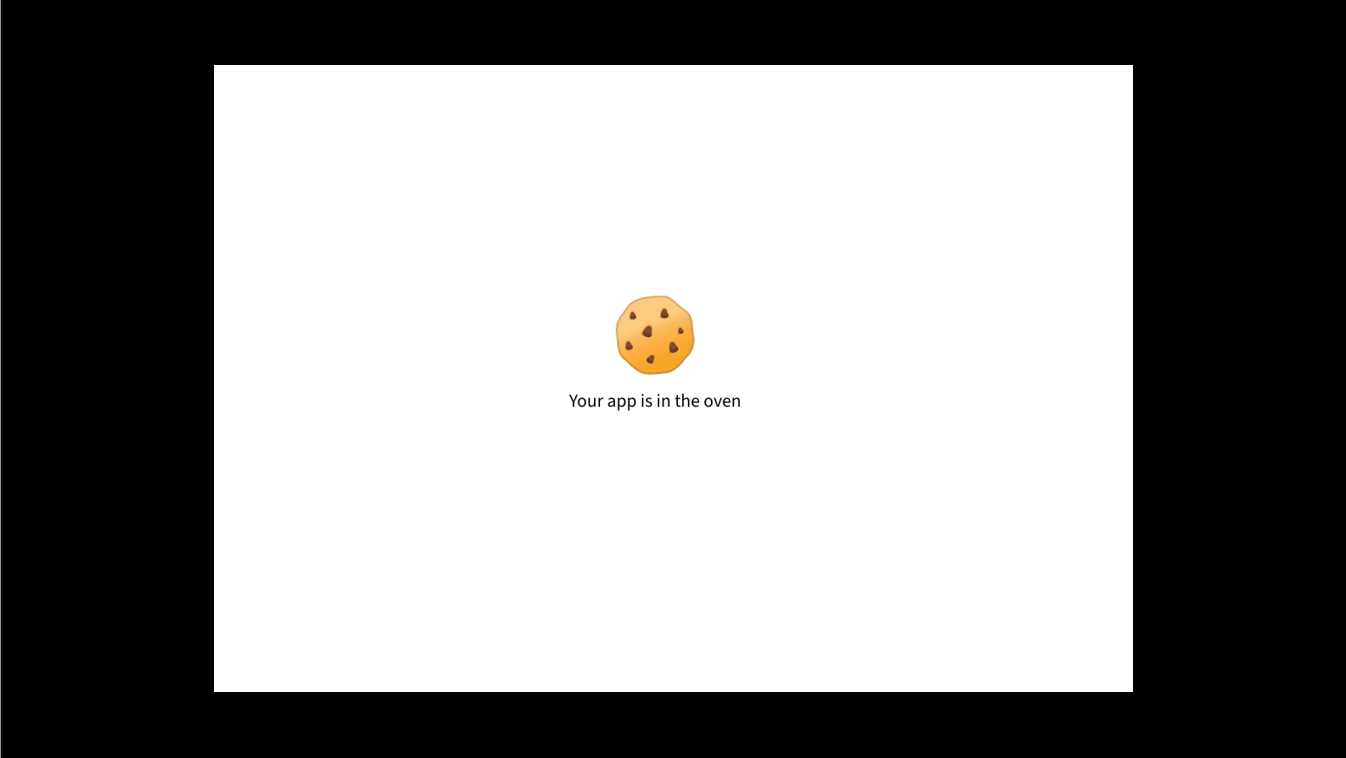
Main file path

streamlit\_app.py

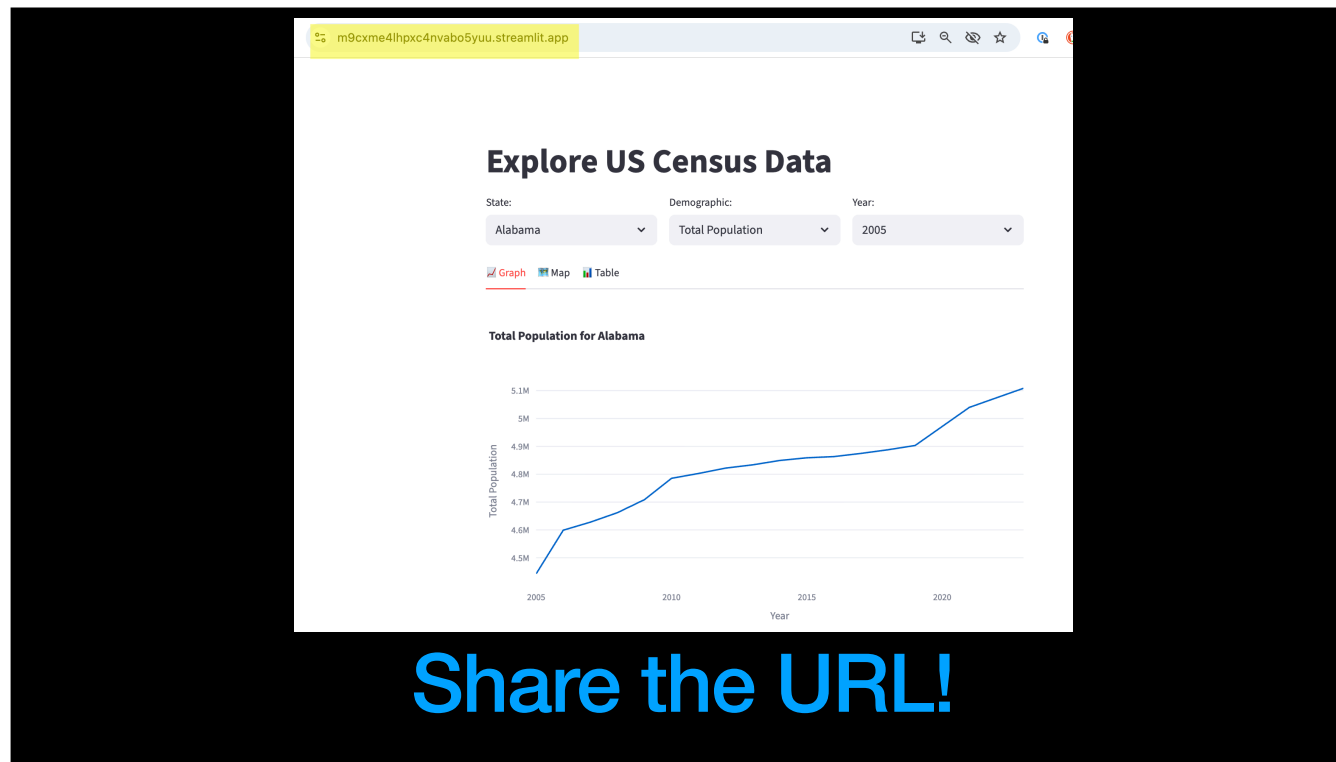
App URL (optional)

[Advanced settings](#)

Deploy



Your app is in the oven



You can share the URL with friends, family & colleagues. In my personal experience, sharing apps has changed how I approach work.

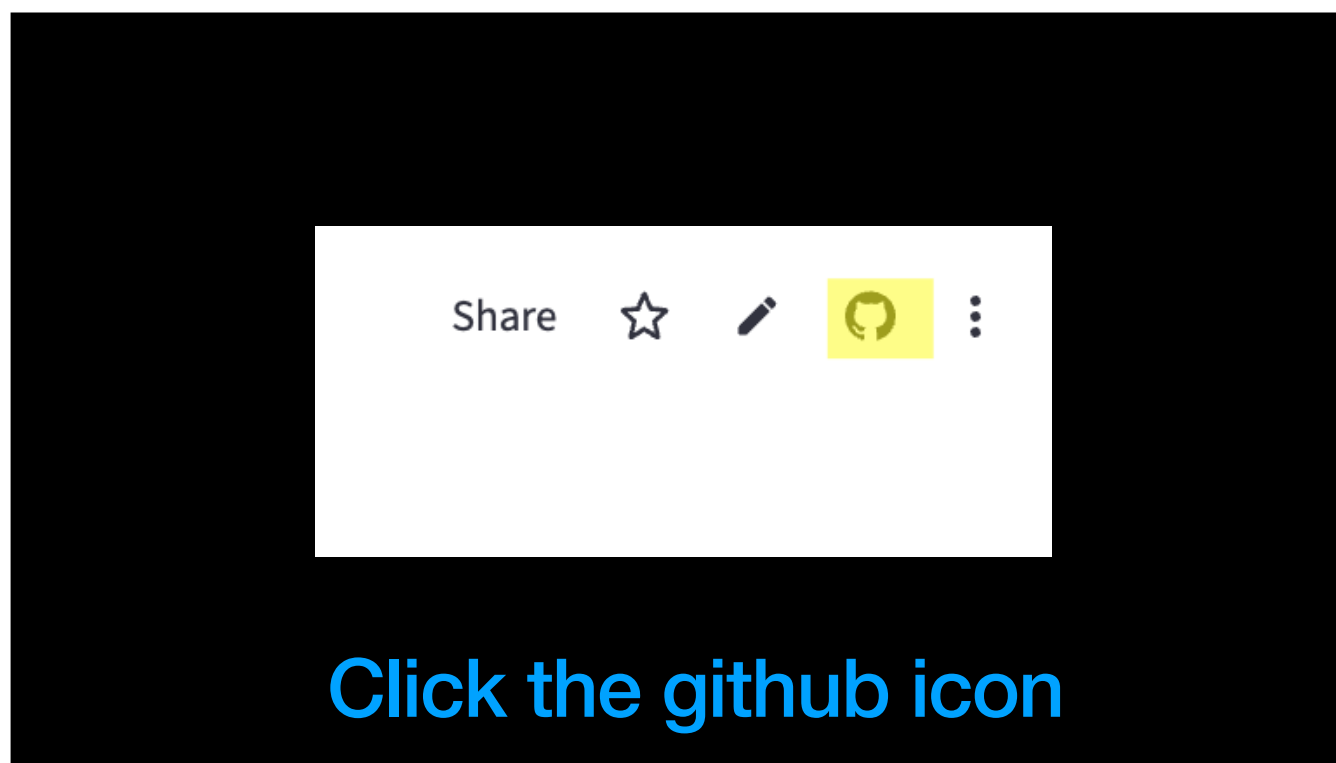
## Deployment

- Get the code into Github
- Tell Streamlit Community Cloud about the Repo
- **Notes about the deployed app**

Your app is now out there. Let me share some information about apps deployed on Streamlit's Community Cloud.

## Updating the App

The app will automatically update each time you push a change to the repo. You don't have to do anything - this will happen automatically.



In the upper right are a few buttons and icons. If you click the "GitHub" icon, it will take you to the GitHub repo for the app.

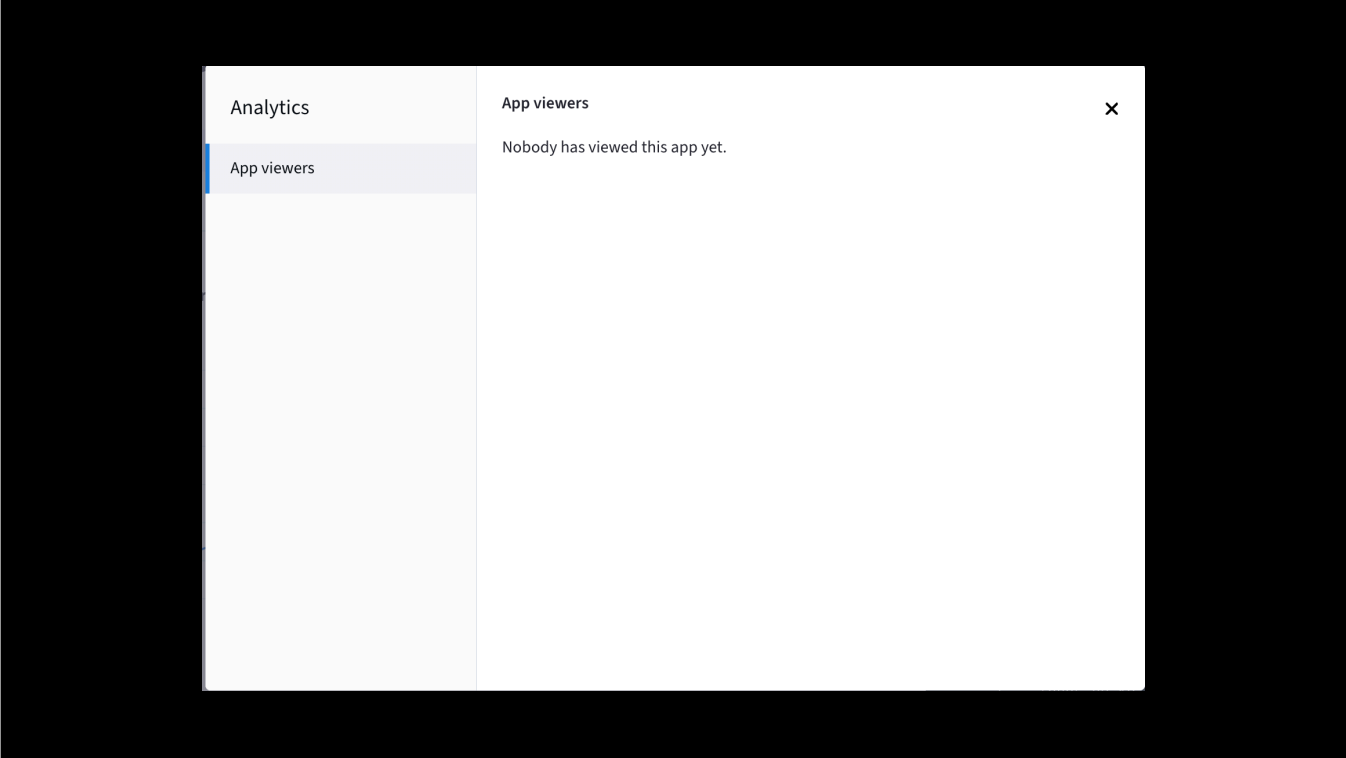


At some point you might want to know how many people have viewed your app.

In the lower right hand corner, click "Manage app".

Then click the icon with 3 vertical dots.

Then click "Analytics".



Because the app is new, no one has viewed it yet.



## Deployment

- Get the code into Github
- Tell Streamlit Community Cloud about the Repo
- Notes about the deployed app

This wrapped up what I wanted to say about deploying your streamlit apps. First you need to get the code into github. Then you need to Streamlit's Community Cloud that you want to deploy the app.

# Course Agenda

(Big Picture)

1. Session 1: Setup & Basics
2. Session 2: "The Loop": Input & Graphics
3. Session 3: Organization: UI & Code
4. Session 4: Deployment

## Exercise: What is a Data App?

- Introduce yourself to your neighbor.
- Ask them 2 questions:
  - *What do you already know about Data Apps, Python and Streamlit?*
  - *What do you want to build after completing this course?*

Focus on the last question: now that you've completed this course, what do you want to build?