

Heroku

By Brian Hodges





Web Hosting in general

- Allows you to display static or dynamic web pages online
 - Static: fixed content, only uses client-side code, no backend data storage/manipulation
 - Dynamic: live content, uses client-side & server-side code, can store and manipulate data
- Common hosts:
 - OpenShift: linux server instances
 - Windows Azure: windows server instances
 - Amazon Web Services: scalable server instances
 - Google App Engine: webapp deployment framework
 - Github: static page hosting
 - Heroku: webapp deployment framework



Heroku Pricing

- Free
 - Limited uptime
 - Sleeps after 30 minutes
 - 10K free database rows (heroku-postgresql)
 - Various add-ons
- \$7+
 - Unlimited uptime
 - Never sleeps
 - Certificate management (https)
 - Metrics
 - Database storage is extra

Quick note: I've never needed more than the free tier



Heroku Drawbacks

- Limited size for the free database
- No persistent file storage
 - All files written to disk are destroyed when the app restarts
- Sleeping apps can take time to start up
 - This is especially true for languages like Python with slow startup times



Deploying to Heroku

- Git
 - Automatic or manual deployment from GitHub or Heroku Git
 - Allows you to use Git features (such as version history) with easy deployment
- Dropbox
 - Manual deployment only
 - Allows easy file management, especially with the desktop client
- Containers
 - Manual deployment only
 - Benefits from containers' static environment



Workers

- Special processes that run in the background
- Always on
- Ideal for bots (i.e. twitter bots or discord bots)



Heroku application anatomy

- app.json
 - Application configuration information
 - <https://devcenter.heroku.com/articles/app-json-schema>
- Procfile
 - List of application processes
 - Specifies what programs to run
 - <https://devcenter.heroku.com/articles/procfile>
- Language specific files
 - Can specify dependencies to install, application runtimes, etc.
- The app itself
 - However you decided to structure it





Demo



Files

(put these in the root of a GitHub repo)

app.json:

```
{
  "name": "Test Server",
  "description": "A demonstration
app for Heroku",
  "image": "heroku/python",
  "keywords": [
    "Heroku"
  ],
  "addons": []
}
```

Procfile:

```
web: python server.py $PORT
```

requirements.txt:

```
# install with: pip install -r
requirements.txt
bottle ~= 0.12.5
```

server.py:

```
import sys
from bottle import route, run

@route('/')
def index():
    return "Hello World!"

run(host='0.0.0.0',
    port=int(sys.argv[1]))
```

Create New App | Heroku


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Heroku, Inc. [US]



https://dashboard.heroku.com/new-app

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Create New App


App name


hello-acm




hello-acm is available

Choose a region

 United States



 Add to pipeline...

Create app

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Deployment method

 Heroku Git
Use Heroku CLI

 GitHub
Connect to GitHub

 Dropbox
Connect to Dropbox

 Container Registry
Use Heroku CLI

Connect to GitHub

Connect this app to GitHub to enable code diffs and deploys.


Search for a repository to connect to

brian-hodges

ACMTalks

Search

Missing an organization? [Ensure Heroku Dashboard has organization access.](#)

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App connected to GitHub

Code diffs, manual and auto deploys are available for this app.

Connected to  [brian-hodges/ACMTalks](#)

[Disconnect...](#)


✓ Releases in the [activity feed](#) link to GitHub to view commit diffs

Automatic deploys

Enables a chosen branch to be automatically deployed to this app.

Enable automatic deploys from GitHub

Every push to the branch you specify here will deploy a new version of this app. **Deploys happen automatically:** be sure that this branch is always in a deployable state and any tests have passed before you push. [Learn more.](#)

 master

☐ Wait for CI to pass before deploy

Only enable this option if you have a Continuous Integration service configured on your repo.

Enable Automatic Deploys

Manual deploy

Deploy the current state of a branch to this app.

Deploy a GitHub branch

This will deploy the current state of the branch you specify below. [Learn more.](#)


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Automatic deploys

Enables a chosen branch to be automatically deployed to this app.

 Automatic deploys from `master` are enabled

Every push to `master` will deploy a new version of this app. **Deploys happen automatically:** be sure that this branch in GitHub is always in a deployable state and any tests have passed before you push. [Learn more.](#)

☐ Wait for CI to pass before deploy

Only enable this option if you have a Continuous Integration service configured on your repo.

Disable Automatic Deploys

Manual deploy

Deploy the current state of a branch to this app.

Deploy a GitHub branch

This will deploy the current state of the branch you specify below. [Learn more.](#)

`master`

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Deploy Branch

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