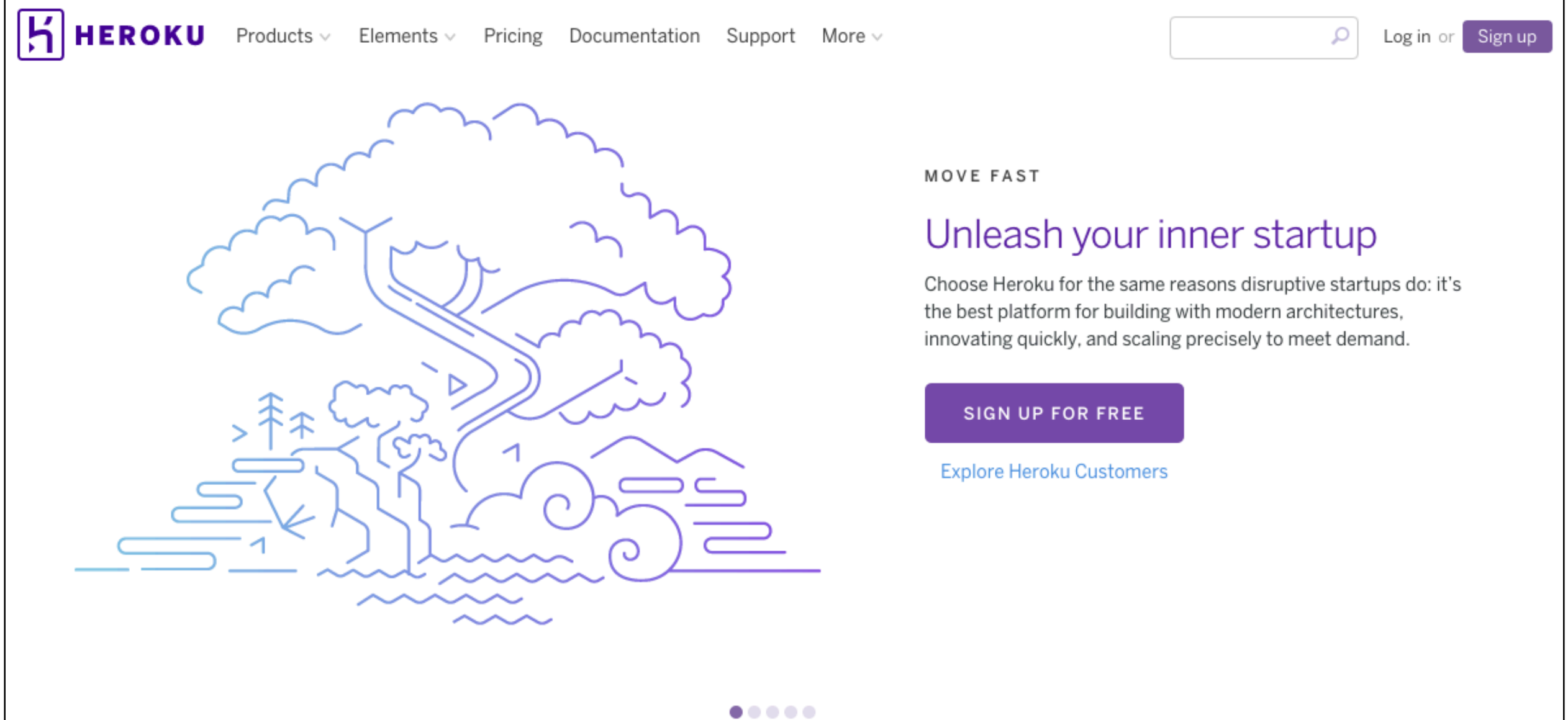
Deployment to Heroku

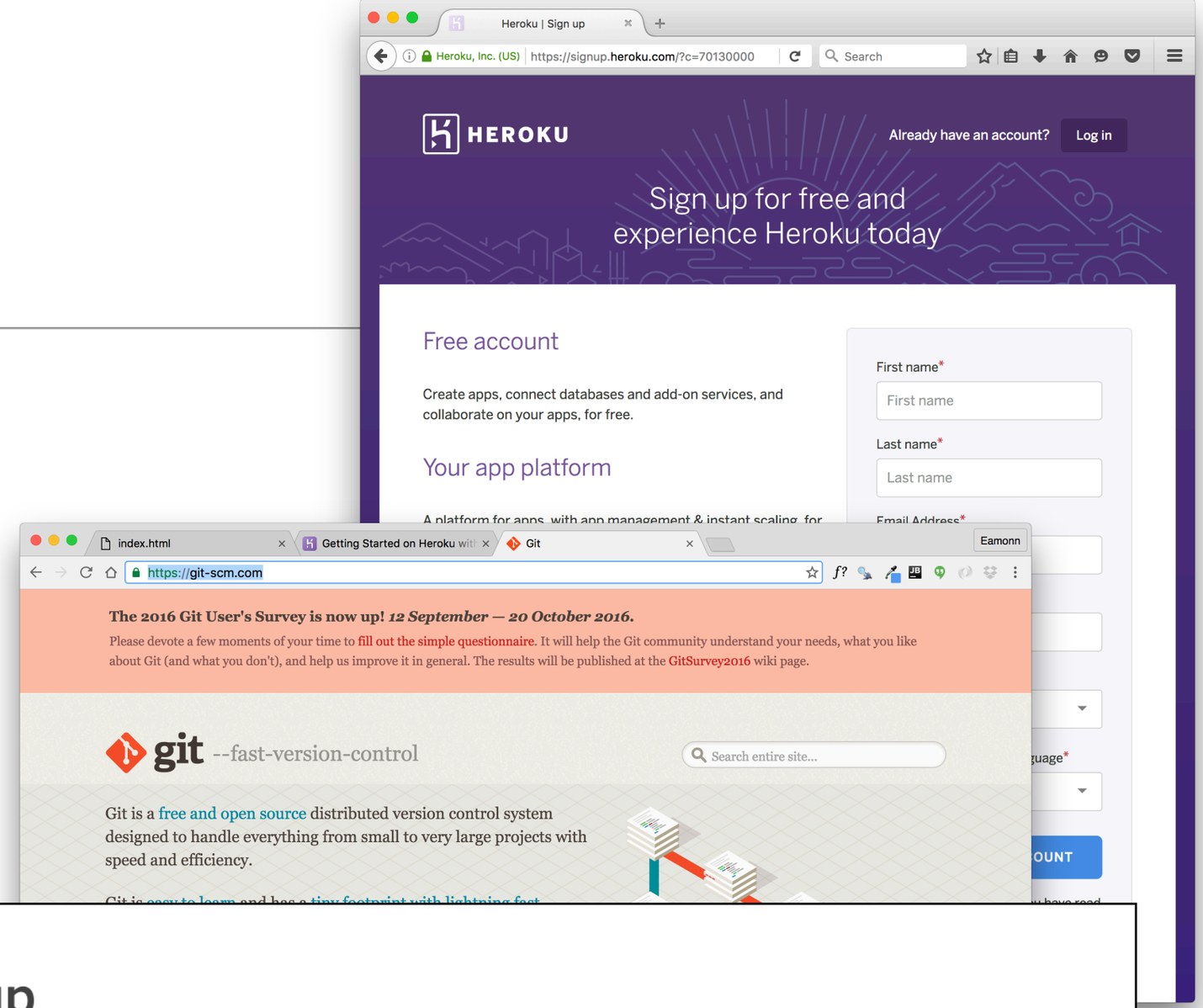
Node.js

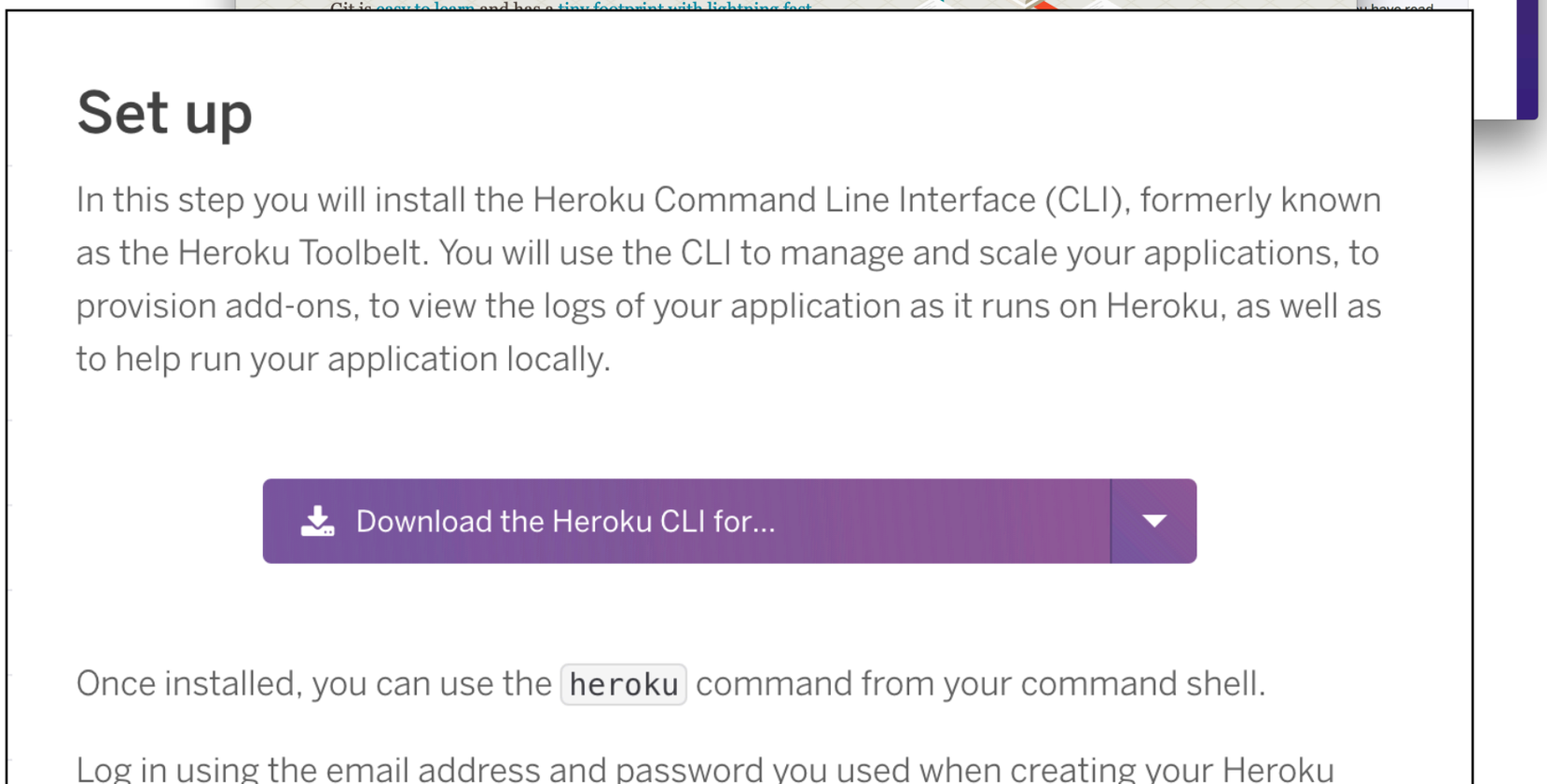


- Platform as a Service (PaaS).
- Offers simplified node.js application deployment & management

Requirements

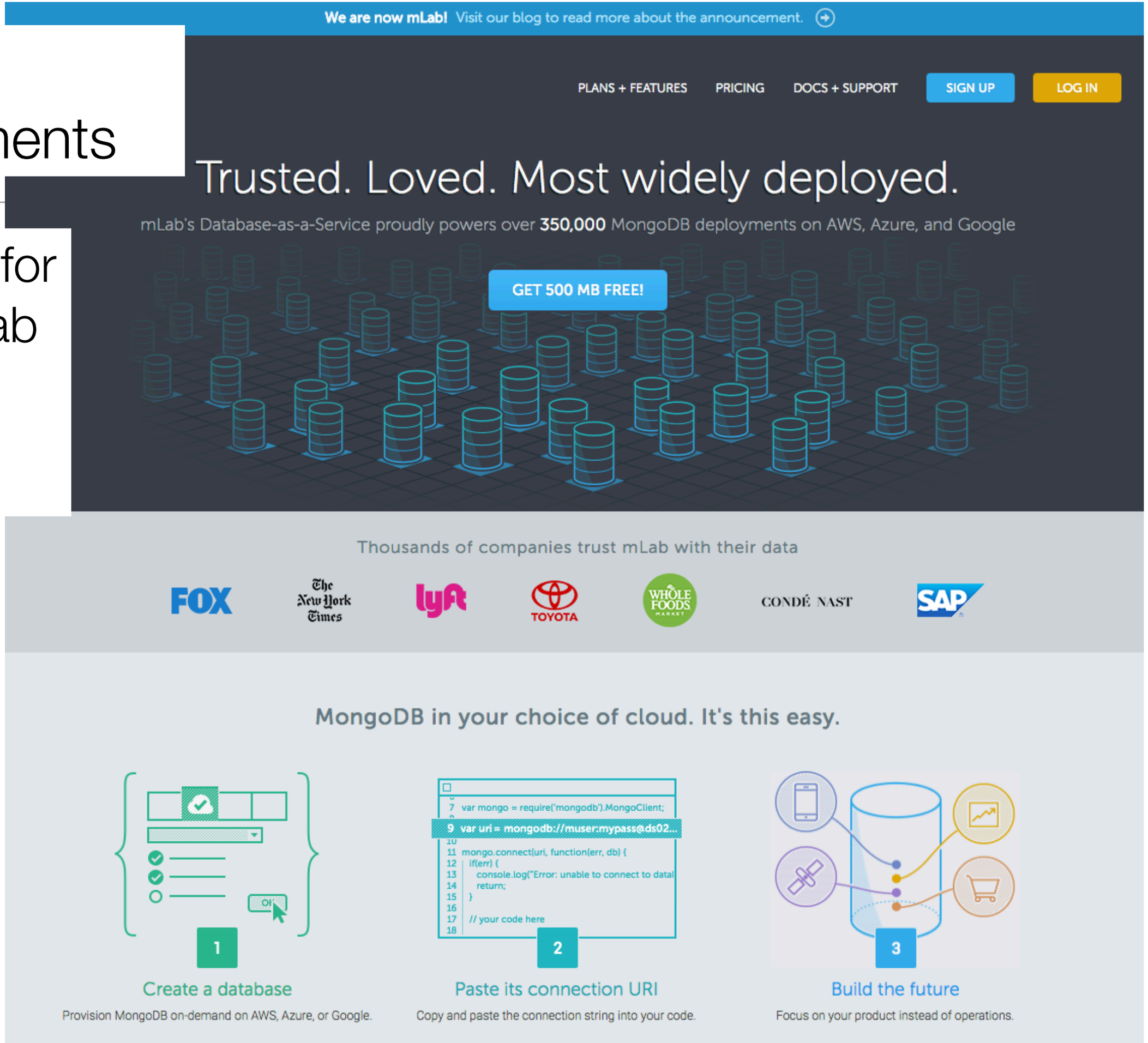
- Sign up for a free account on heroku
- Install Git
- Install Heroku Command Line





Requirements

- Sign up for free mLab account



Deployment: 7 Steps

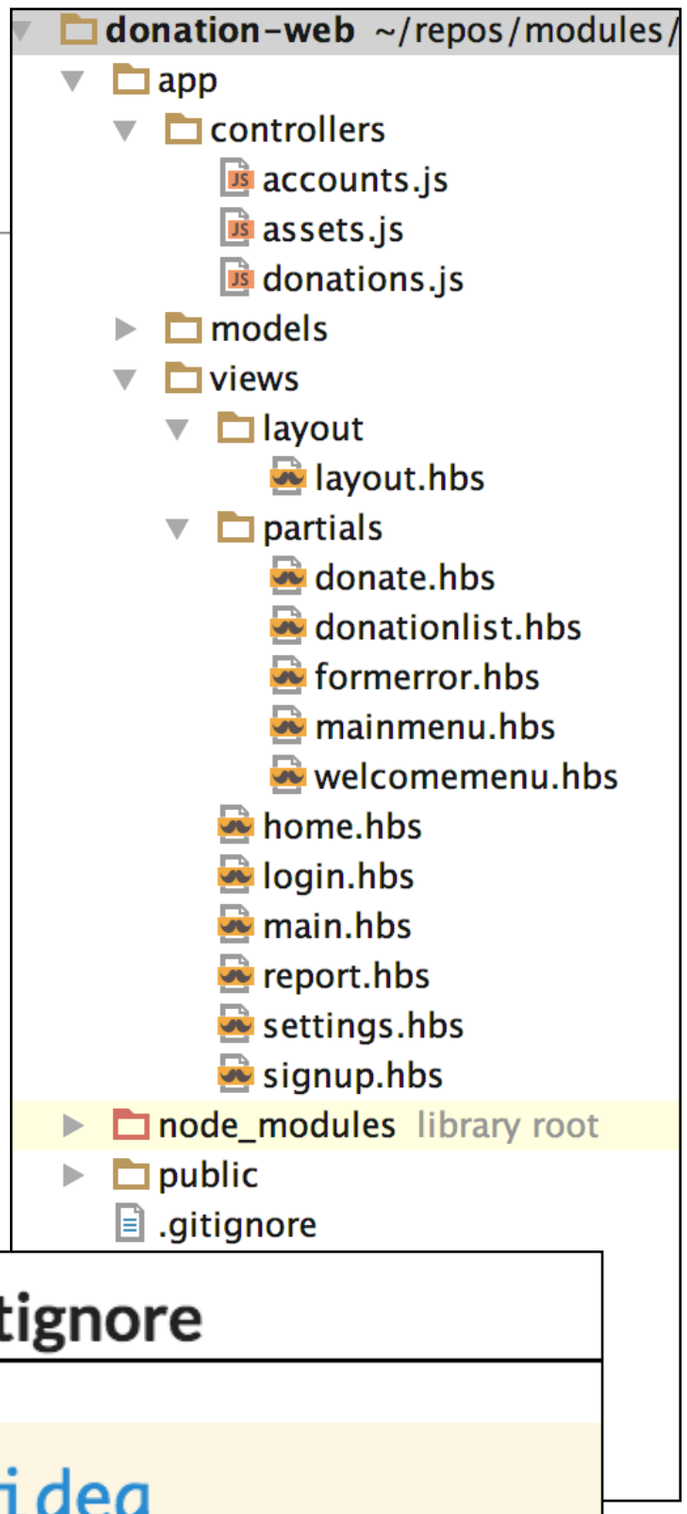
1. Commit project to git
2. Create an application using the heroku command line
3. Provision a MongoDB database
4. Prepare **package.json** for deployment
5. Push the application to heroku remote
6. Enable ‘Production’ mode, db connection, & restart
7. Monitor the Heroku Logs

1: Commit project to git

```
git add .
```

```
git commit -m "first commit"
```

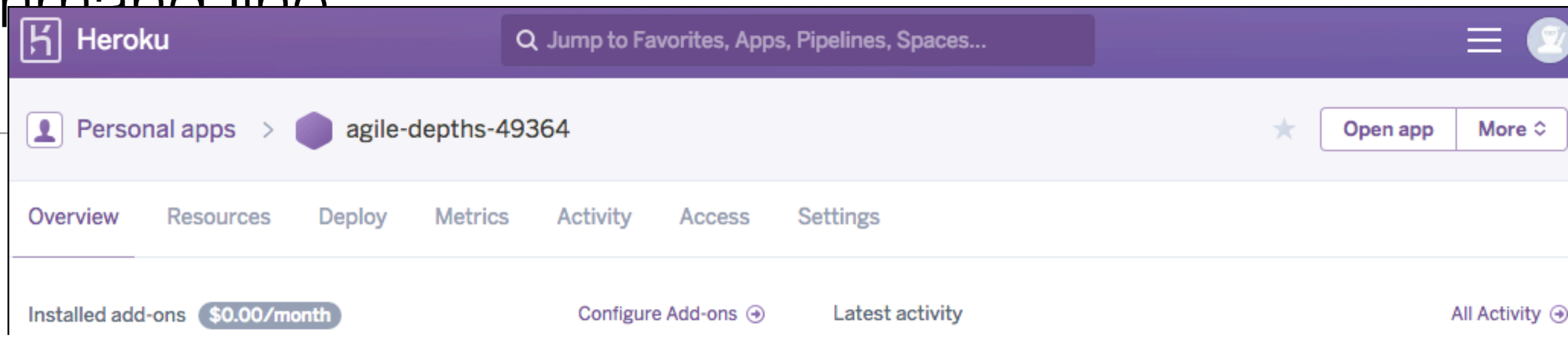
- Create gitignore file
- add all files
- commit all files



.gitignore

```
.idea
node_modules
```

2: Create an application using the heroku command line



Now log in to your heroku account:

```
heroku login
Email:
Password (typing will be hidden):
```

Once logged in, create a new application on heroku

```
heroku create
```

This will respond with a new name in a few seconds:

```
Creating app... ⬢ calm-brushlands-29225
https://calm-brushlands-29225.herokuapp.com/ | https://git.heroku.com/calm-brushlands-29225.git
```

3: Provision a MongoDB database

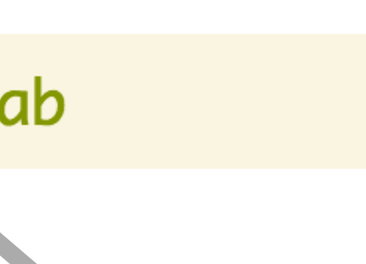
Because we are using a mongo database, we need to provision this feature:

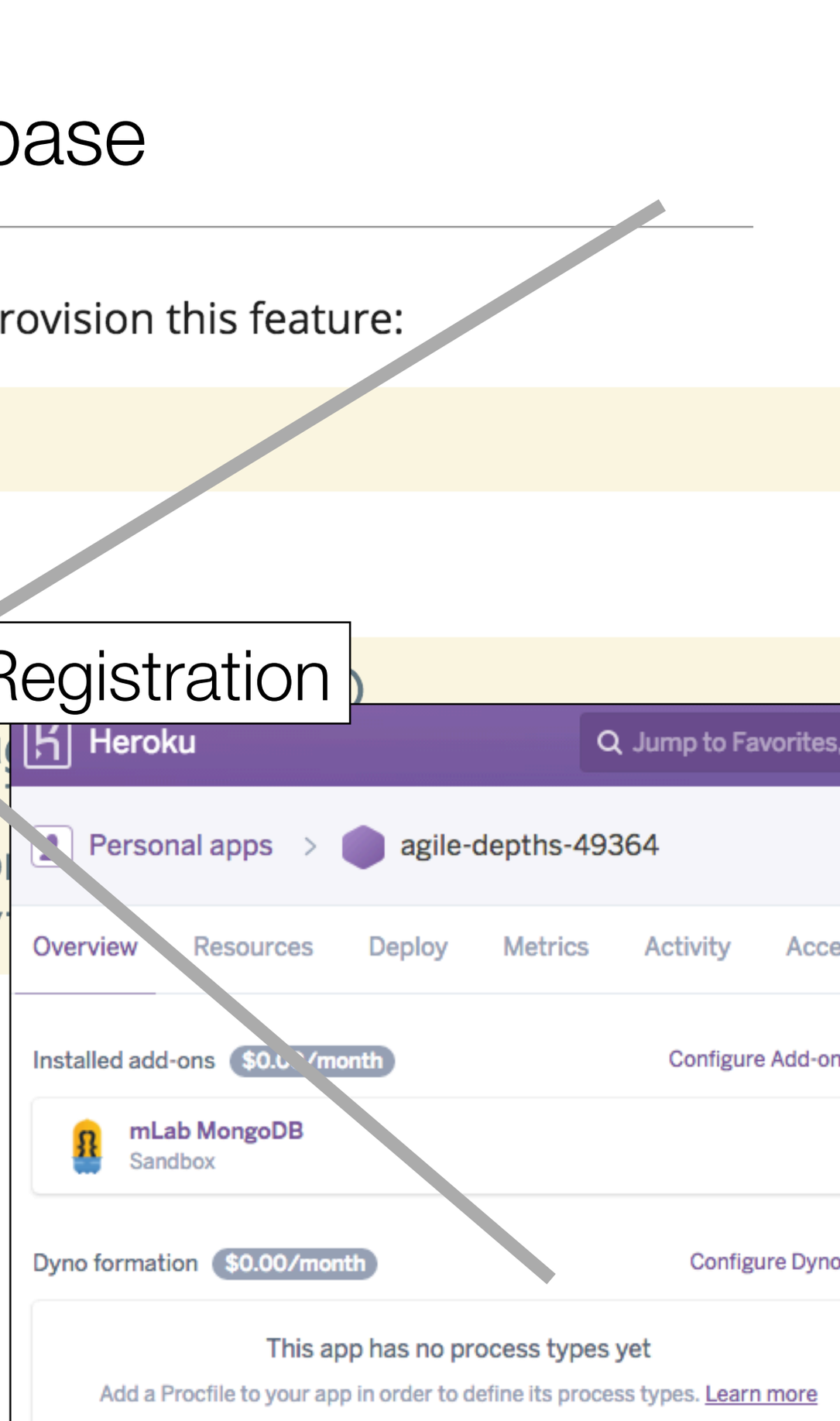
```
heroku addons:create mongolab
```

This should respond as follows:

```
Creating mongo
Adding mongolab-silhouetted-58340 to ag
Setting MONGODB_URI and restarting agi
Welcome to mLab.  Your new subscriptio
Use `heroku addons:docs mongolab` to v
```

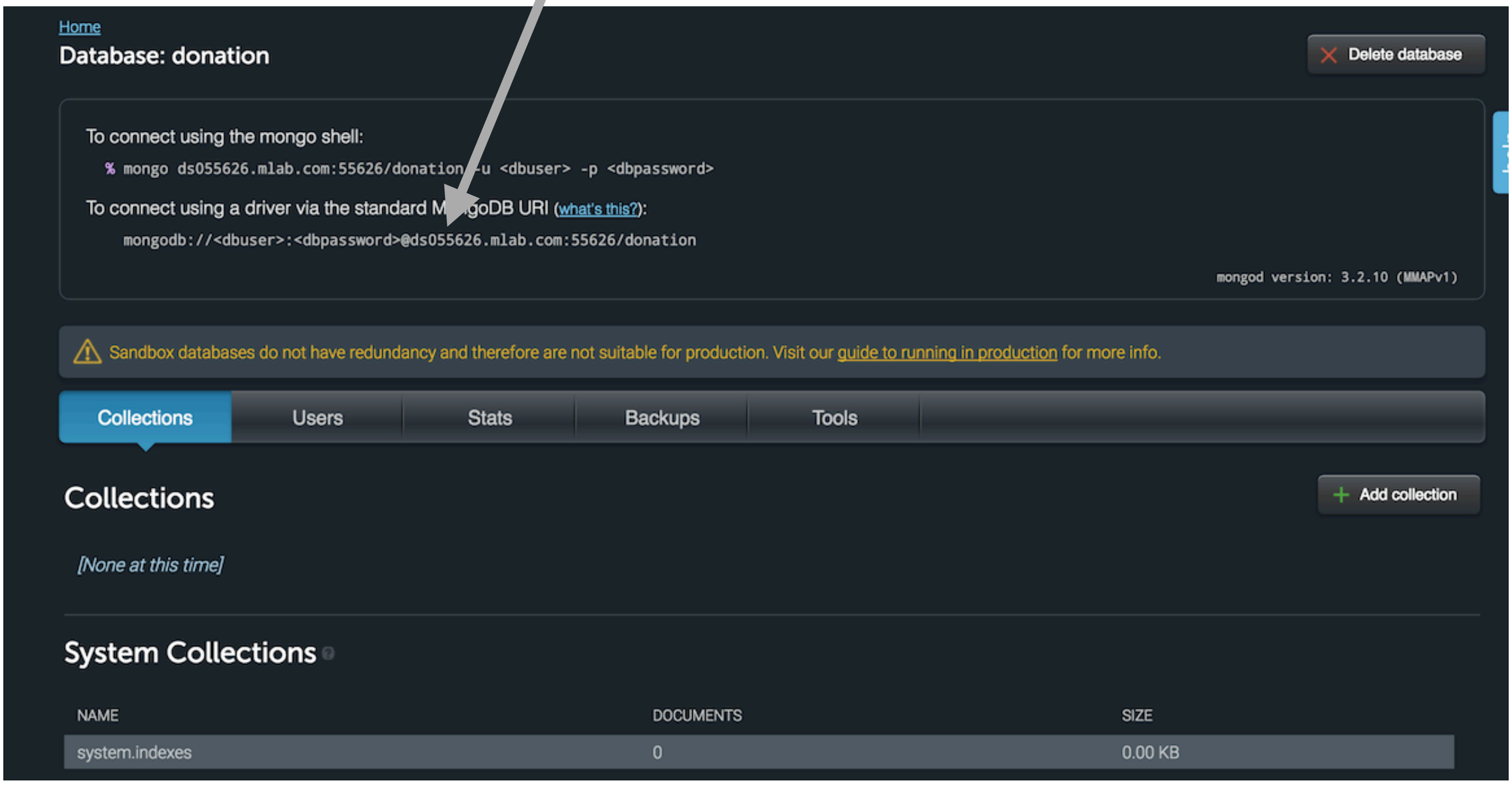
Require Credit Card Registration





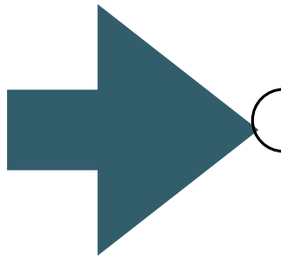
3: Create Mongo Database on MongoLab

- Create Database + Create Special User for database
- Extract ‘Connection String’



4: Prepare package.json for deployment

- define ‘start’ script



```
{
  "name": "donation-web",
  "version": "1.0.0",
  "description": "an application to host donations for
  "main": "index.js",
  "scripts": {
    "start": "node index",
    "test": "echo \"Error: no test specified\" && exit
  },
  "author": "",
  "license": "ISC",
  "dependencies": {
    "handlebars": "^4.0.5",
    "hapi": "^14.1.0",
    "hapi-auth-cookie": "^6.1.1",
    "inert": "^4.0.1",
    "joi": "^9.0.4",
    "mongoose": "^4.5.8",
    "vision": "^4.1.0"
  }
}
```

- then commit this change:

```
git commit -m "node launch script added"
```

5: Push the application to heroku remote

```
git push heroku master
```

```
heroku open
```

```
Counting objects: 43, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (39/39), done.
Writing objects: 100% (43/43), 506.04 KiB | 0 bytes/s, done.
Total 43 (delta 6), reused 0 (delta 0)
remote: Compressing source files... done.
remote: Building source:
remote:
remote: -----> Node.js app detected
remote:
remote: -----> Creating runtime environment
remote:
remote:        NPM_CONFIG_LOGLEVEL=error
remote:        NPM_CONFIG_PRODUCTION=true
remote:        NODE_ENV=production
remote:        NODE_MODULES_CACHE=true
```

```
remote:        Procfile declares types     -> (none)
remote:        Default types for buildpack -> web
remote:
remote: -----> Compressing...
remote:        Done: 15.3M
remote: -----> Launching...
remote:        Released v5
remote:        https://agile-depths-49364.herokuapp.com/ deployed to Heroku
remote:
remote: Verifying deploy.... done.
To https://git.heroku.com/agile-depths-49364.git
 * [new branch]      master -> master
```

- Use git to transmit app sources to heroku
- Browse to the deployed url

6: Enable ‘Production’ mode

- Although the app will launch, we will not be able to get beyond the sign up screen. Trying to register a new user will generate an internal error on the app.

```
heroku logs --tail
```

```
9.449373+00:00 heroku[web.1]: Starting process with command `npm start`
1.420126+00:00 app[web.1]:
1.420148+00:00 app[web.1]: > donation-web@1.0.0 start /app
               app[web.1]: > node index
               app[web.1]:
               app[web.1]: Server listening at: http://1bee6dd6-e0a2-4b2a-81fe-9c6e9485bea3:48
               app[web.1]: Mongoose disconnected
2.427543+00:00 app[web.1]: Mongoose connection error: MongoError: getaddrinfo ENOTFOUND undefi
```

```
var dbURI = 'mongodb://localhost/donation';
if (process.env.NODE_ENV === 'production') {
  dbURI = process.env.MONGOLAB_URI;
}
```

- Need to reset the app to production mode, and restart

```
heroku config:set NODE_ENV="production"
```

6: Set db connection string & restart

- On Command Line, set MONGOLAB_URI to connection string harvested from mLab

```
heroku config:set MONGOLAB_URI=mongodb://donationuser:donationuser@dsXXX.mlab.com:XXXX/donation
```

```
var dbURI = 'mongodb://localhost/donation';
if (process.env.NODE_ENV === 'production') {
  dbURI = process.env.MONGOLAB_URI;
}
```

- Restart the app

```
heroku restart
```

7: Monitor the Heroku Logs

```
heroku logs --tail
```

```
2016-08-07T11:45:49.449373+00:00 heroku[web.1]: Starting process with command `npm start`
2016-08-07T11:45:51.420126+00:00 app[web.1]:
2016-08-07T11:45:51.420148+00:00 app[web.1]: > donation-web@1.0.0 start /app
2016-08-07T11:45:51.420149+00:00 app[web.1]: > node index
2016-08-07T11:45:51.420150+00:00 app[web.1]:
2016-08-07T11:45:52.419684+00:00 app[web.1]: Server listening at: http://1bee6dd6-e0a2-4b2a-81fe-9c6e9485
```

Connect Robomongo to mLab

- The database we are now using is in the cloud - and it might be useful to be able to browse directly to it.

- For this url

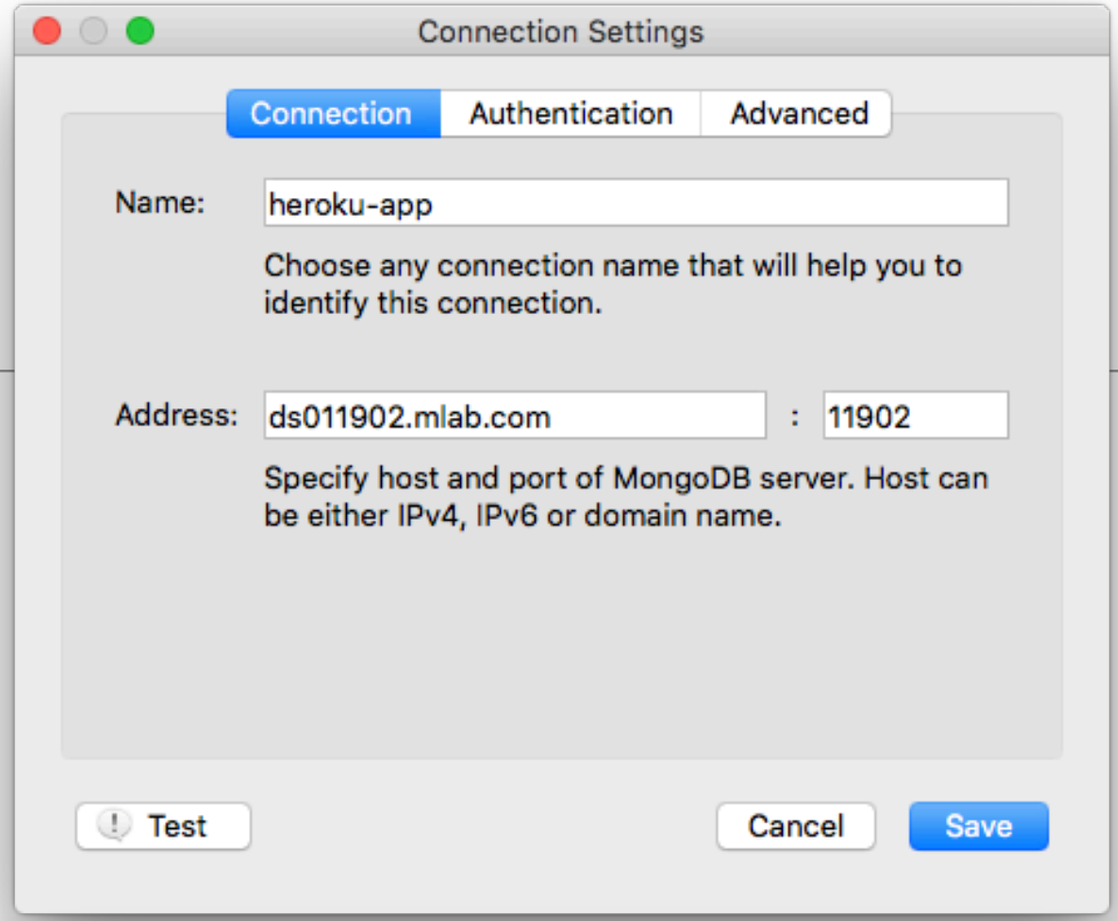
```
mongodb://heroku_4pt2zvkj:omev5e4sctvbiaa0i1t5cbstdj@ds011902.mlab.com:11902/heroku_4pt2
```

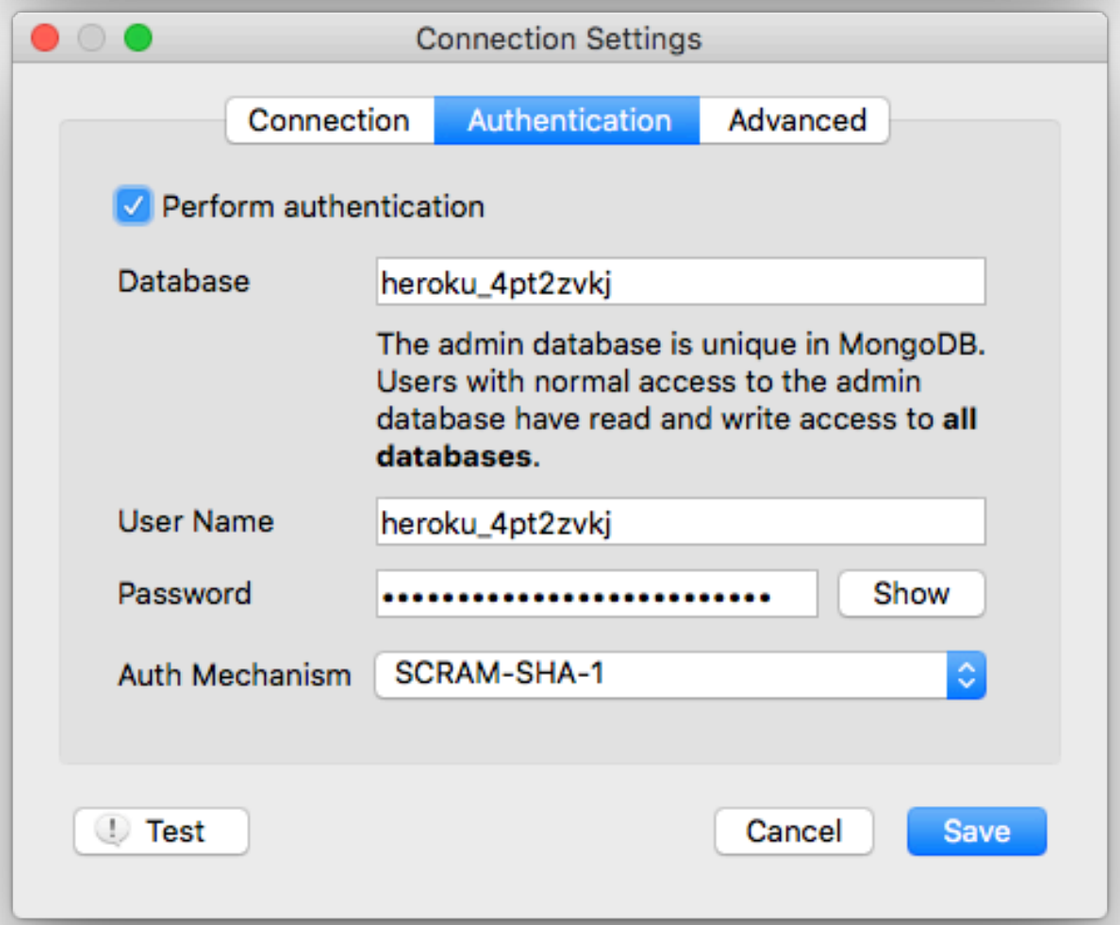
- This encodes the following connection settings:

address: ds011902.mlab.com
port: 11902
database: heroku_4pt2zvkj
password: omev5e4sctvbiaa0i1t5cbstdj

Robomongo Connection

address: ds011902.mlab.com
port: 11902
database: heroku_4pt2zvkj
password: omev5e4sctvbiaa0i1t5cbstdj





Robomongo 0.9.0-RC7

- New Connection (2)
- heroku-app (1)
  - heroku_4pt2zvkj
    - Collections (3)
      - System
      - donations
        - Indexes
      - users
        - Indexes
    - Functions
    - Users

db.getColle... | db.get... | db.getColle... | db.get... | db.getColle... | db.get... | db.getColle... | db.get...

heroku-app | ds011902.mlab.com:11902 | heroku_4pt2zvkj

```
db.getCollection('users').find({})
```

users | 0.114 sec. | 0 | 50

Key	Value	Type
(1) ObjectId("5725d5dd6...	{ 6 fields }	Object
_id	ObjectId("5725d5dd680385110...	ObjectId
firstName	homer	String
lastName	simpson	String
email	homer@simpson.com	String
password	secret	String
__v	0	Int32

Logs