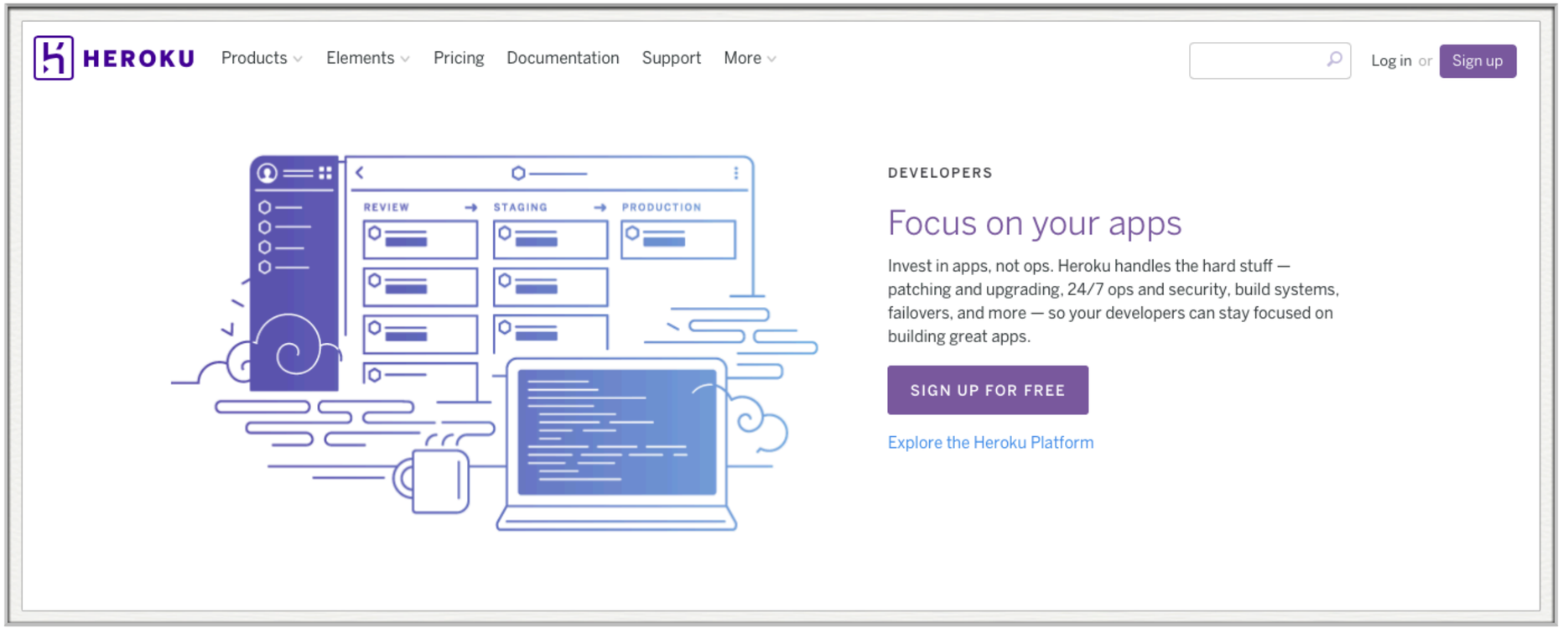
Deployment

Lab 05b
Deployment

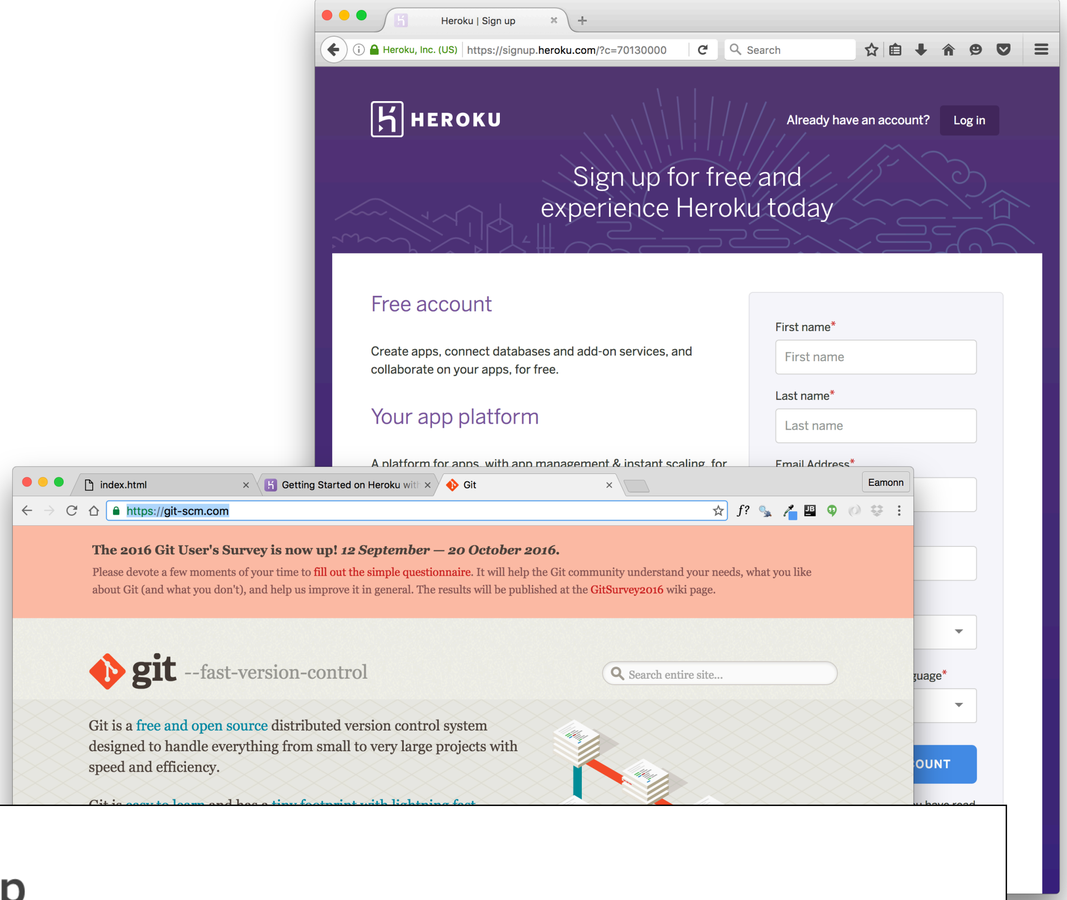
Deploy the application + the mongo database, to an application server.

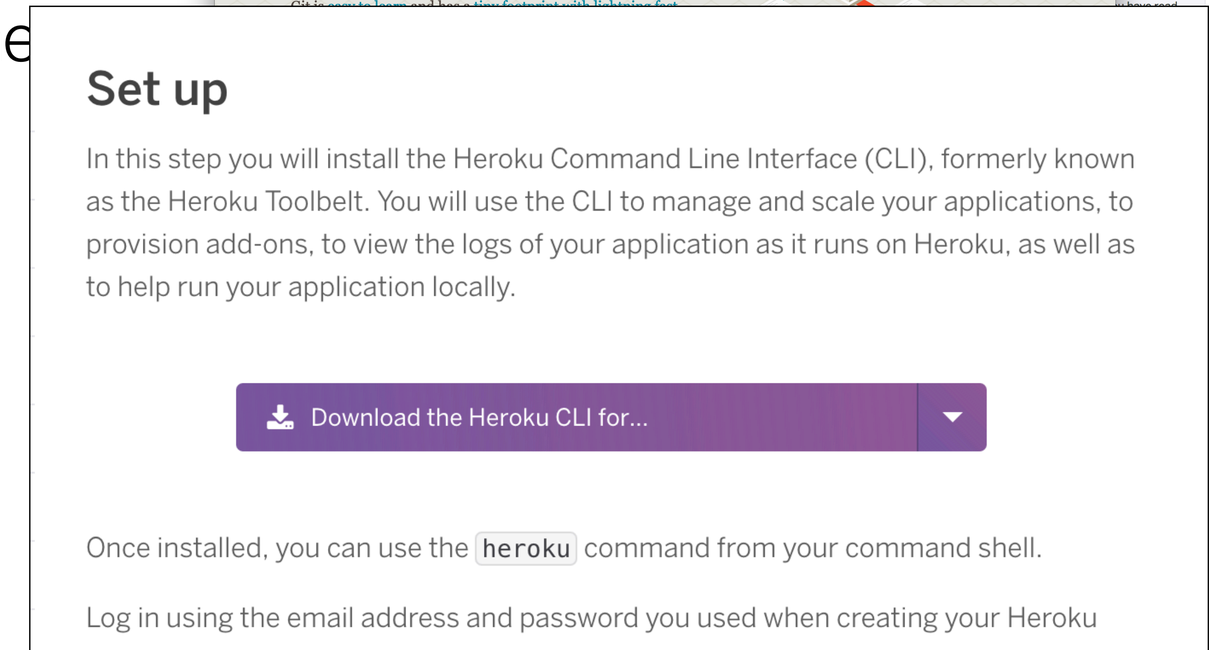


- Platform as a Service (PaaS).
- Offers simplified node.js application deployment & management

Requirements

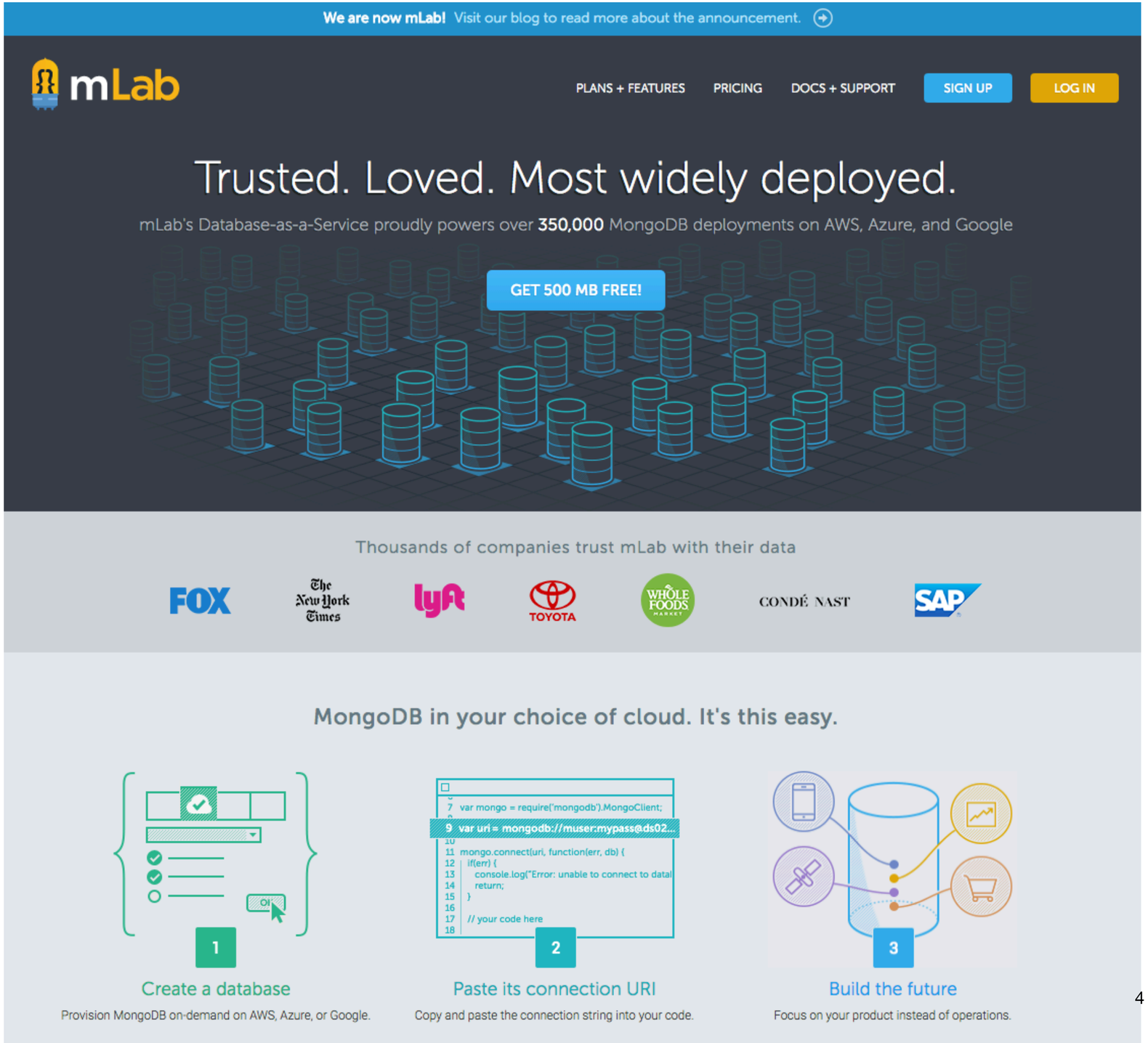
- Sign up for a free account on heroku
- Install Git
- Install Heroku Command Line





Requirements

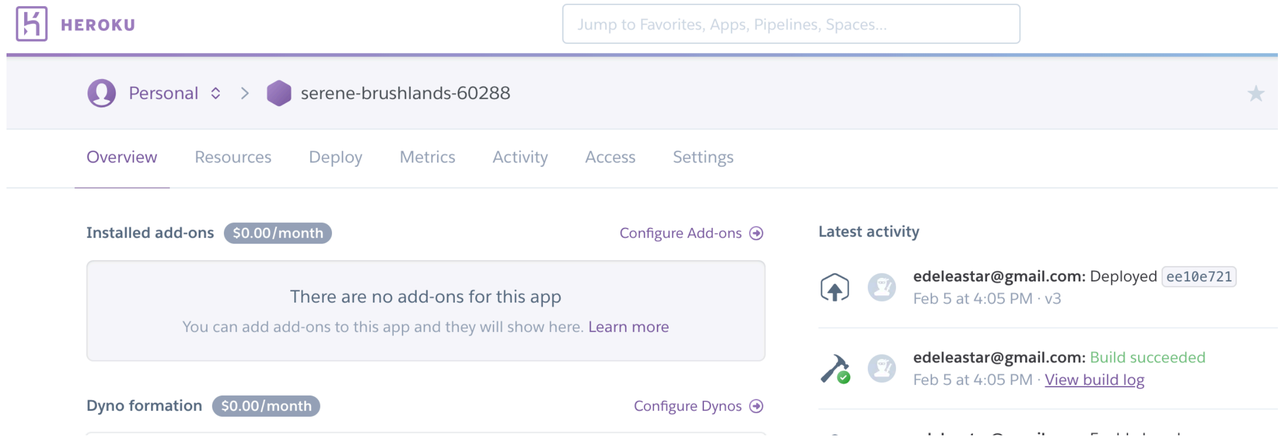
- Sign up for free mLab account



Deployment: 6 Steps

1. Create an application using the heroku command line
2. Provision a MongoDB database
3. Prepare application for deployment
4. Commit project to git
5. Push the application to heroku remote
6. Monitor the Heroku Logs

1: Create an application using the heroku command line



Now log in to your heroku account:

```
heroku login
```

This will open a browser to complete the login - and will report back on the command line that you are logged in successfully.

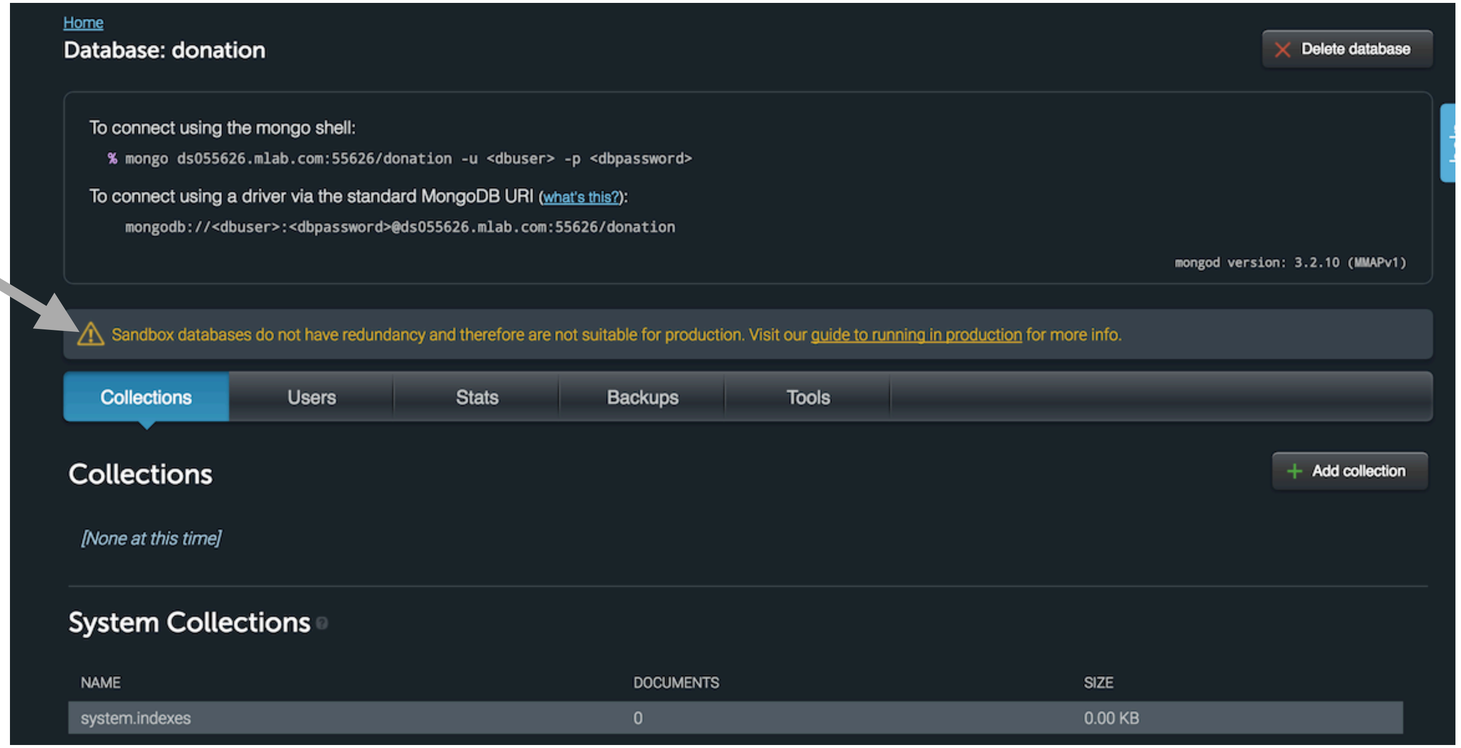
```
heroku create
```

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
```

2: Create Mongo Database on MongoLab

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



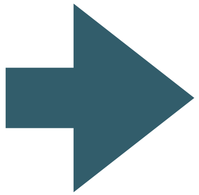
.env

```
# db=mongodb://localhost/donation
db=mongodb://donationuser:donationuser@ds055626.mlab.com:55626/donation
```

- Copy connection string into .env

3: Prepare application for deployment

- define ‘start’ script



- Change server creation in index.js

```
const server = Hapi.server({
  port: process.env.PORT || 3000,
});
```

```
{
  "name": "donation-web",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "start": "node index.js",
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "",
  "license": "ISC",
  "dependencies": {
    "boom": "^7.3.0",
    "dotenv": "^6.2.0",
    "handlebars": "^4.0.12",
    "hapi": "^18.0.0",
    "hapi-auth-cookie": "^9.1.0",
    "inert": "^5.1.2",
    "joi": "^14.3.1",
    "mais-mongoose-seeder": "^1.0.7",
    "mongoose": "^5.4.7",
    "vision": "^5.4.4"
  },
  "devDependencies": {
    "prettier": "^1.16.0"
  },
  "prettier": {
    "singleQuote": true,
    "printWidth": 120
  }
}
```

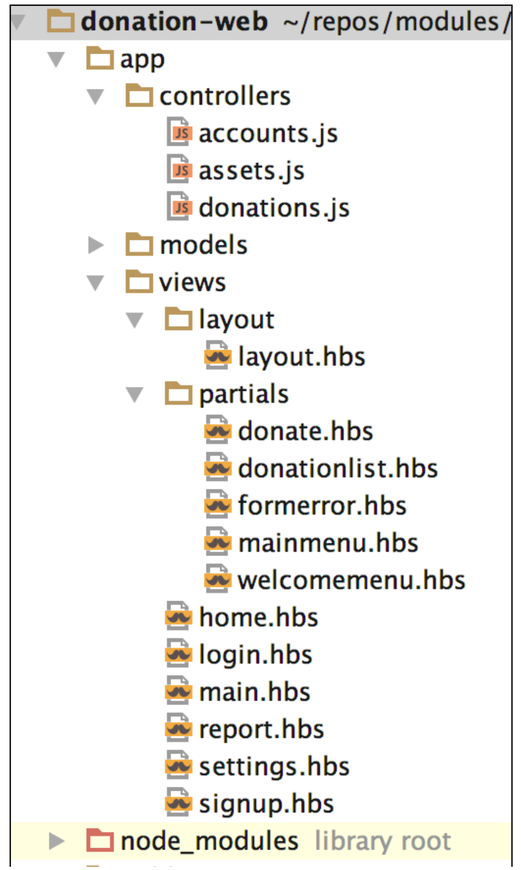
4: Commit project to git

```
git init
```

```
git add .
```

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

- add all files
- commit all files
- remove .env file



If project already in git, consider creating a separate project/repo just for heroku deployment

.gitignore

```
.idea
node_modules
//.env
```

5: Push the application to heroku remote

```
git push heroku master
```

```
heroku open
```

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

```
Counting objects: 240, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (224/224), done.
Writing objects: 100% (240/240), 528.80 KiB | 15.55 MiB/s, done.
Total 240 (delta 106), 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:        NODE_ENV=production
remote:        NODE_MODULES_CACHE=true
remote:        NODE_VERBOSE=false
remote:
remote: -----> Installing binaries
remote:        engines.node (package.json):  unspecified
remote:        engines.npm (package.json):   unspecified (use default)
remote:
remote:        Resolving node version 10.x...
remote:        Downloading and installing node 10.15.1...
remote:        Using default npm version: 6.4.1
remote:
remote: -----> Building dependencies
remote:        Installing node modules (package.json + package-lock)
remote:        added 74 packages from 63 contributors and audited 222 packages in 4.241s
remote:        found 0 vulnerabilities
remote:
remote:
remote: -----> Caching build
remote:        - node_modules
remote:
remote: -----> Pruning devDependencies
remote:        removed 1 package and audited 221 packages in 1.125s
remote:        found 0 vulnerabilities
remote:
remote:
remote: -----> Build succeeded!
remote:  !     This app may not specify any way to start a node process
remote:        https://devcenter.heroku.com/articles/nodejs-support#default-web-process-type
remote:
remote: -----> Discovering process types
remote:        Procfile declares types     -> (none)
remote:        Default types for buildpack -> web
remote:
remote: -----> Compressing...
remote:        Done: 21.1M
remote: -----> Launching...
remote:        Released v3
remote:        https://serene-brushlands-60288.herokuapp.com/ deployed to Heroku
remote:
remote: Verifying deploy... done.
To https://git.heroku.com/serene-brushlands-60288.git
 * [new branch]      master -> master
```

6: Monitor the Heroku Logs

```
heroku logs --tail
```

```
2019-02-05T17:09:16.563323+00:00 heroku[router]: at=info method=GET path="/images/homer3.png" host=intense-ravine-98431.herokuapp.com request_id=
2019-02-05T17:09:18.535939+00:00 heroku[router]: at=info method=GET path="/logout" host=intense-ravine-98431.herokuapp.com request_id=b5300470-e3
2019-02-05T17:09:18.656533+00:00 heroku[router]: at=info method=GET path="/" host=intense-ravine-98431.herokuapp.com request_id=88f558e4-5feb-4f
2019-02-05T17:09:18.772422+00:00 heroku[router]: at=info method=GET path="/images/homer.png" host=intense-ravine-98431.herokuapp.com request_id=
```

Connect Robo 3T 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

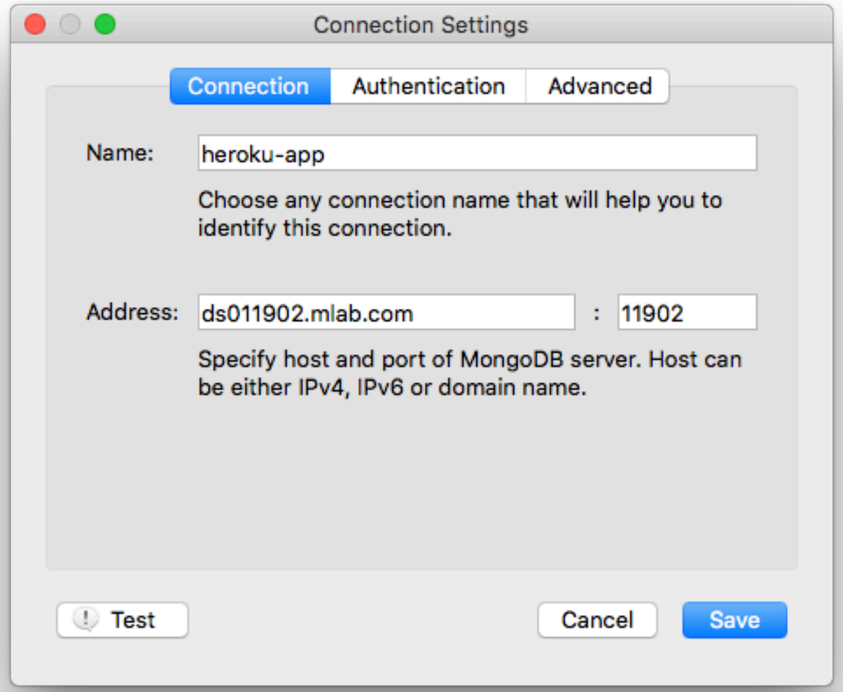
```
mongodb://heroku_4pt2zvkj:omev5e4sctvbiaa0i1t5cbstdj@ds011902.mlab.com:11902/heroku_4pt2zvkj
```

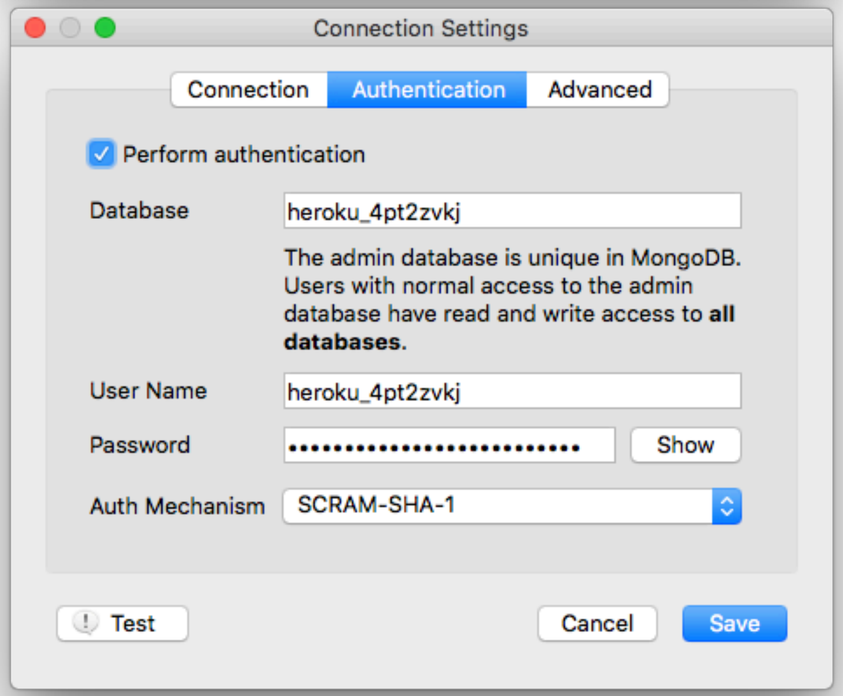
- This encodes the following connection settings:

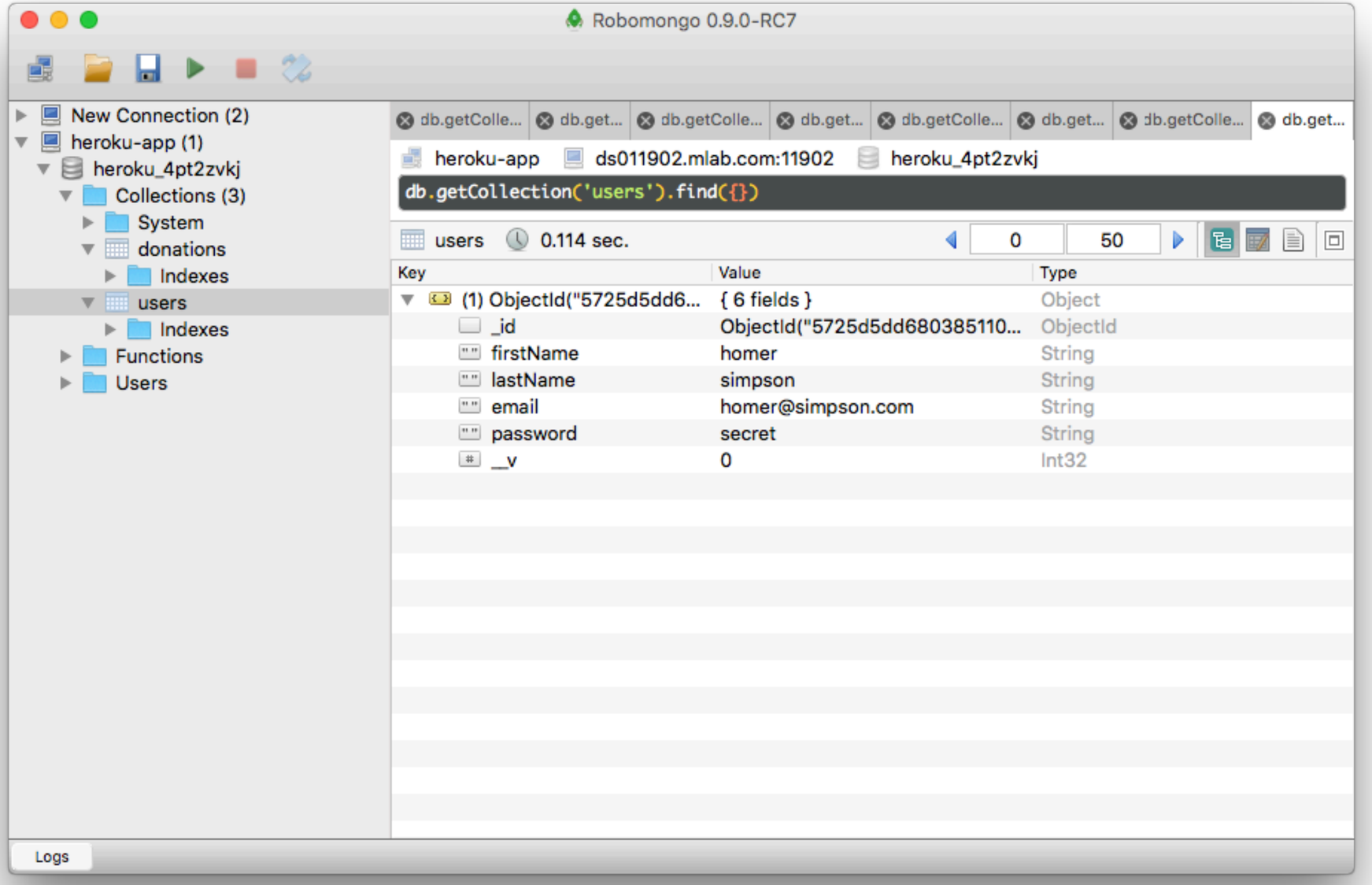
address: ds011902.mlab.com
port: 11902
database: heroku_4pt2zvkj
password: omev5e4sctvbiaa0i1t5cbstdj

Robo 3T Connection

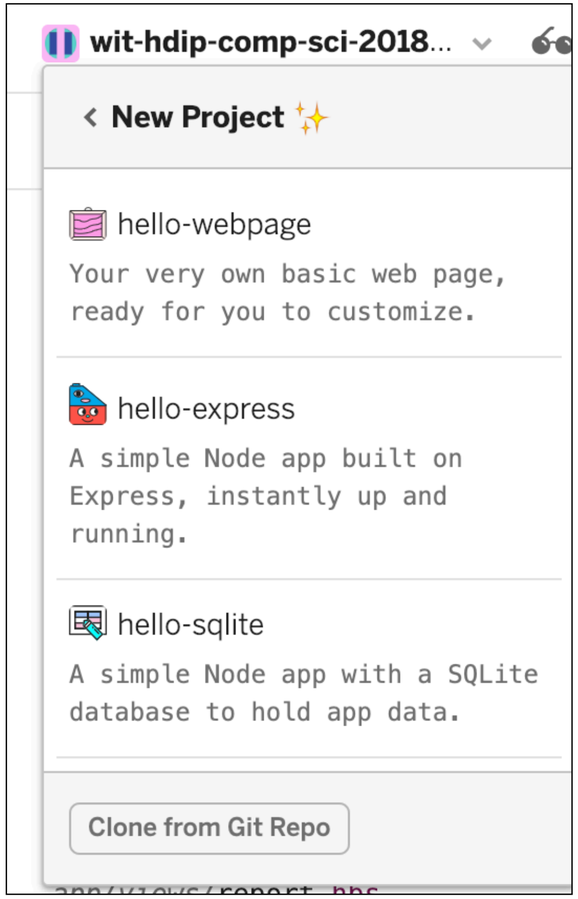
address: ds011902.mlab.com
port: 11902
database: heroku_4pt2zvkj
password: omev5e4sctvbiaa0i1t5cbstdj



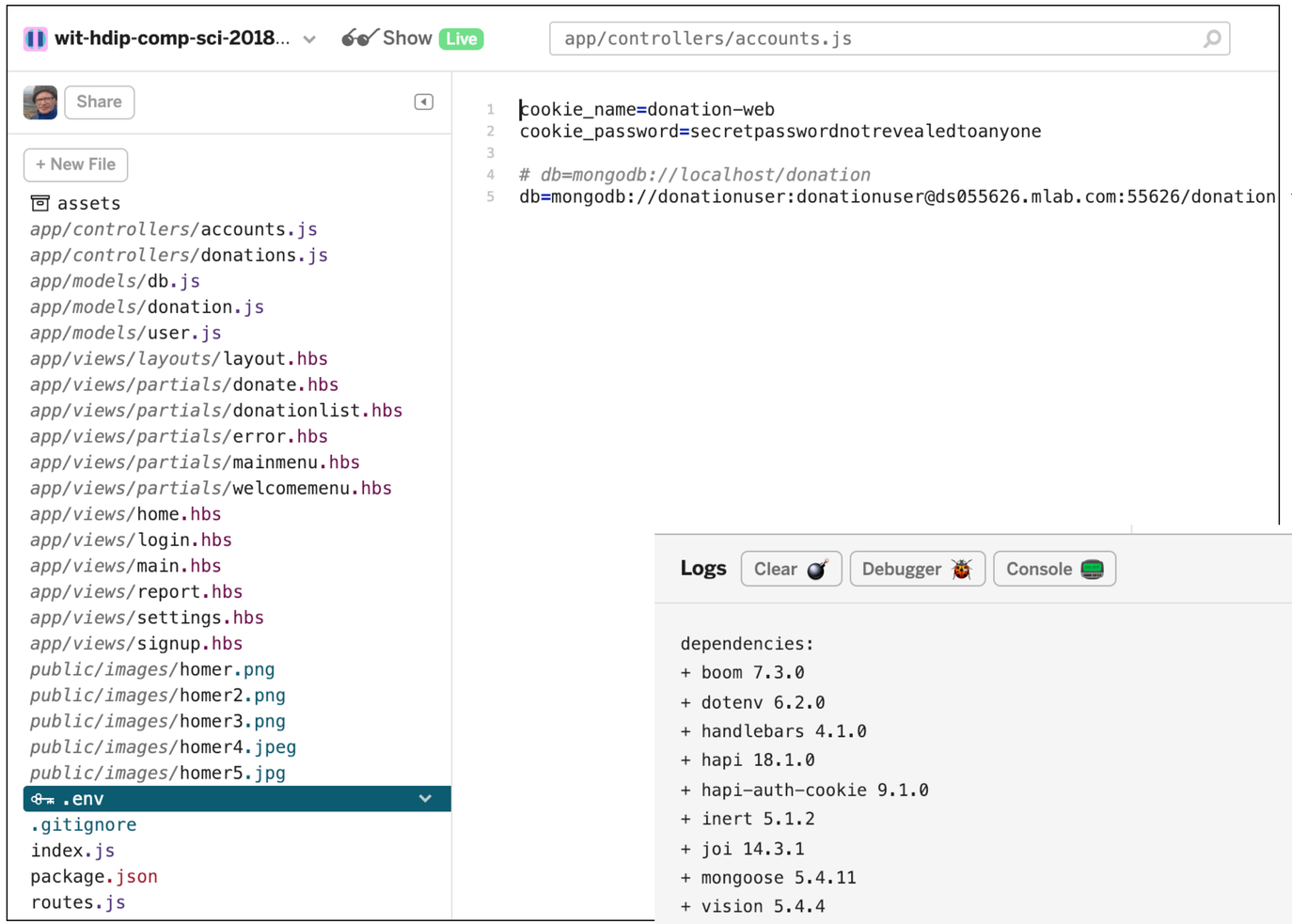



Robomongo 0.9.0-RC7
New Connection (2)
heroku-app (1)
heroku_4pt2zvkj
Collections (3)
System
donations
Indexes
users
Indexes
Functions
Users
db.getColle...
db.get...
db.getColle...
db.get...
db.getColle...
db.get...
db.getColle...
db.get...
heroku-app
ds011902.mlab.com:11902
heroku_4pt2zvkj
db.getCollection('users').find({})
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

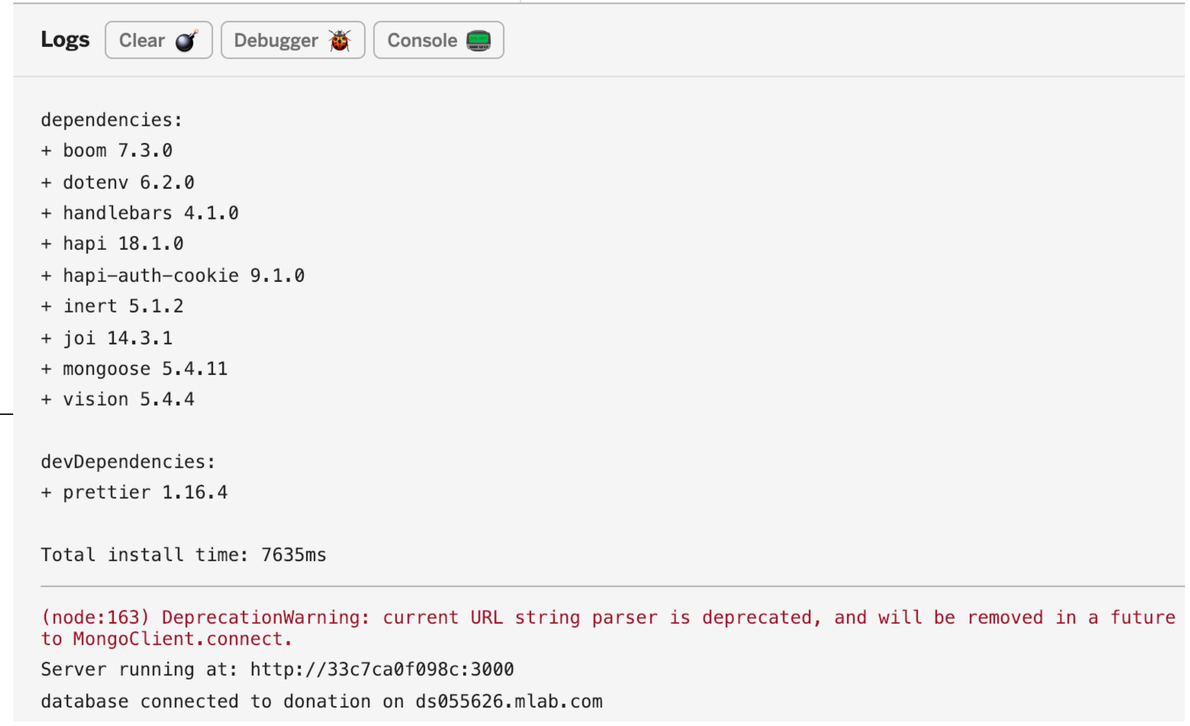
Deployment to Glitch



Clone new project directly from GitHub



Create .env file



Monitor logs