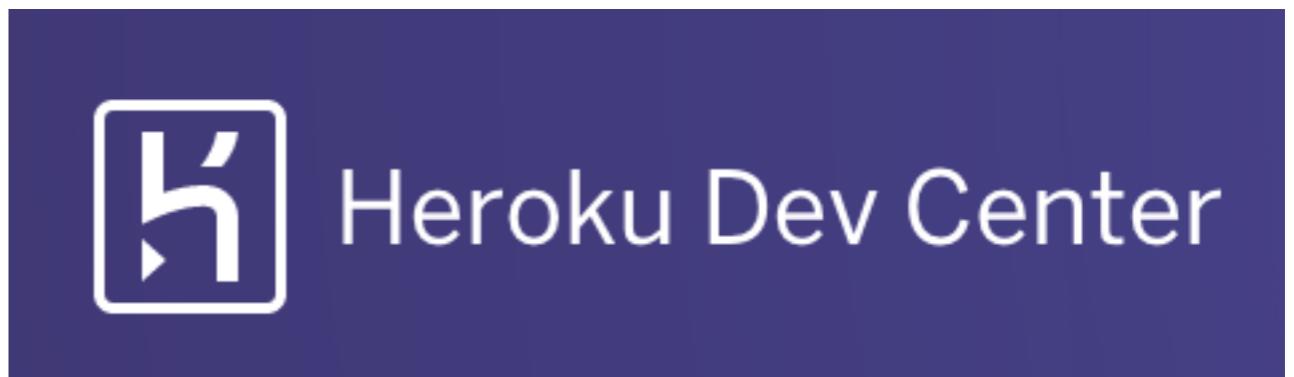


Deployment to Heroku



Node.js



**DEVELOPERS**

Focus on your apps

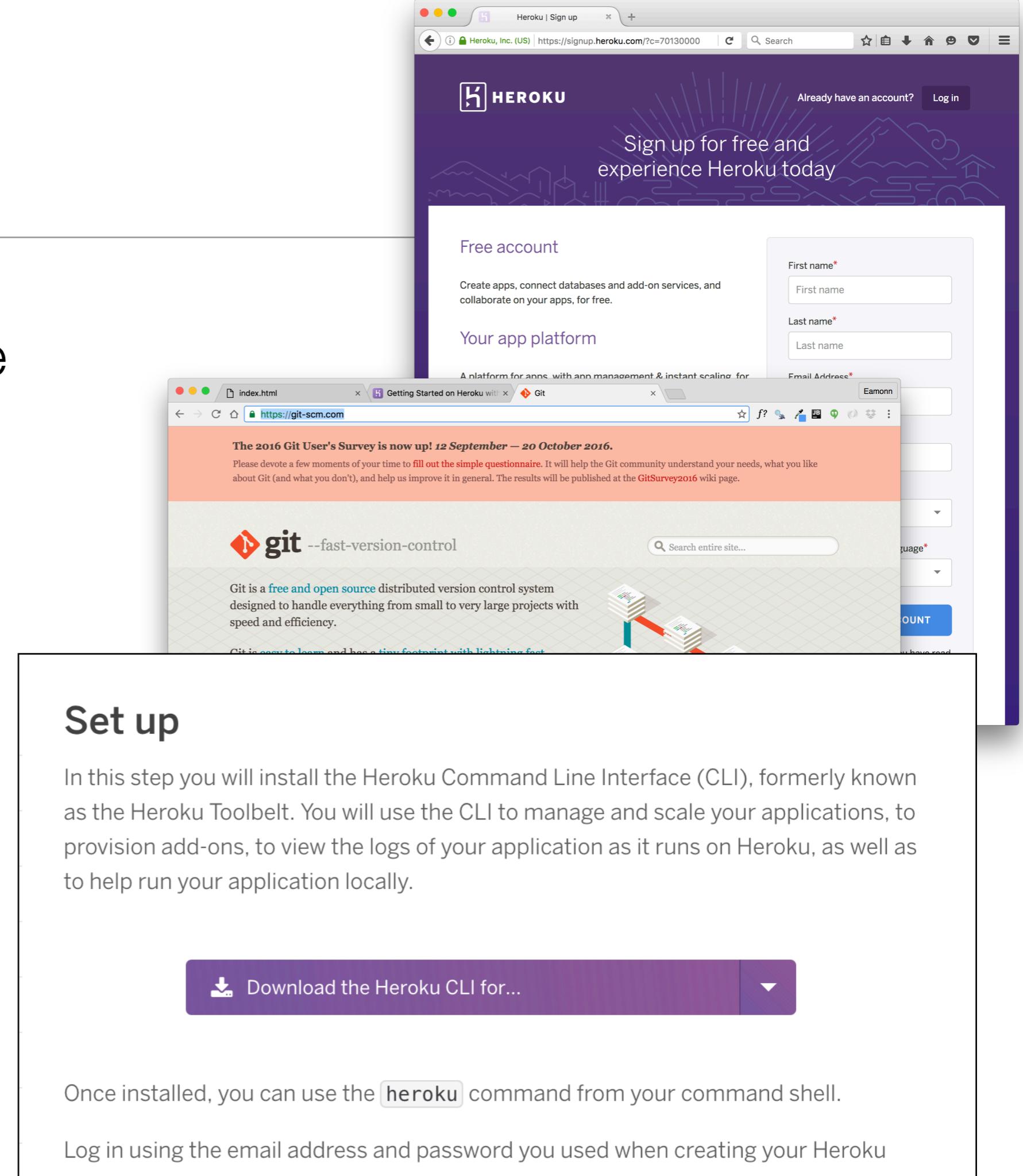
Invest in apps, not ops. Heroku handles the hard stuff — patching and upgrading, 24/7 ops and security, build systems, failovers, and more — so your developers can stay focused on building great apps.

[SIGN UP FOR FREE](#)[Explore the Heroku Platform](#)

- 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



The screenshot shows a Mac desktop with three browser windows open:

- Top Window:** A Heroku sign-up page. It features the Heroku logo and a purple background with a sunburst graphic. Text on the page includes "Sign up for free and experience Heroku today", "Free account", "Create apps, connect databases and add-on services, and collaborate on your apps, for free.", and "Your app platform". A sign-up form on the right includes fields for "First name*", "Last name*", and "Email Address*".
- Middle Window:** The Git homepage at <https://git-scm.com>. It has an orange header with the text "The 2016 Git User's Survey is now up! 12 September – 20 October 2016." and "Please devote a few moments of your time to fill out the simple questionnaire. It will help the Git community understand your needs, what you like about Git (and what you don't), and help us improve it in general. The results will be published at the [GitSurvey2016](#) wiki page." Below this is the Git logo and the tagline "git --fast-version-control". A search bar says "Search entire site...".
- Bottom Window:** A guide titled "Getting Started on Heroku with Git". It has a purple header with the text "Set up". The main content explains the steps to install the Heroku CLI: "In this step you will install the Heroku Command Line Interface (CLI), formerly known as the Heroku Toolbelt. You will use the CLI to manage and scale your applications, to provision add-ons, to view the logs of your application as it runs on Heroku, as well as to help run your application locally." A purple button at the bottom says "Download the Heroku CLI for..." with a download icon.

Below the bottom window, on the desktop, is the text: "Once installed, you can use the `heroku` command from your command shell. Log in using the email address and password you used when creating your Heroku

Requirements

- Sign up for free mLab account

Trusted. Loved. Most widely deployed.

mLab's Database-as-a-Service proudly powers over **350,000** MongoDB deployments on AWS, Azure, and Google



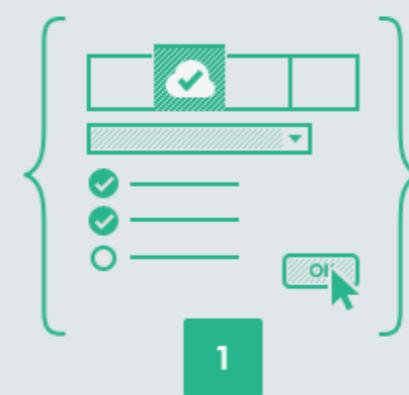
Thousands of companies trust mLab with their data



CONDÉ NAST



MongoDB in your choice of cloud. It's this easy.



1
Create a database

Provision MongoDB on-demand on AWS, Azure, or Google.

```
7 var mongo = require('mongodb').MongoClient;
9 var url = 'mongodb://muser:mypass@ds02...
10 mongo.connect(url, function(err, db) {
11   if(err) {
12     console.log("Error: unable to connect to data...
13   }
14   // your code here
15 }
16
17
18
```

2

Paste its connection URI

Copy and paste the connection string into your code.



3
Build the future

Focus on your product instead of operations.

Deployment: 7 Steps

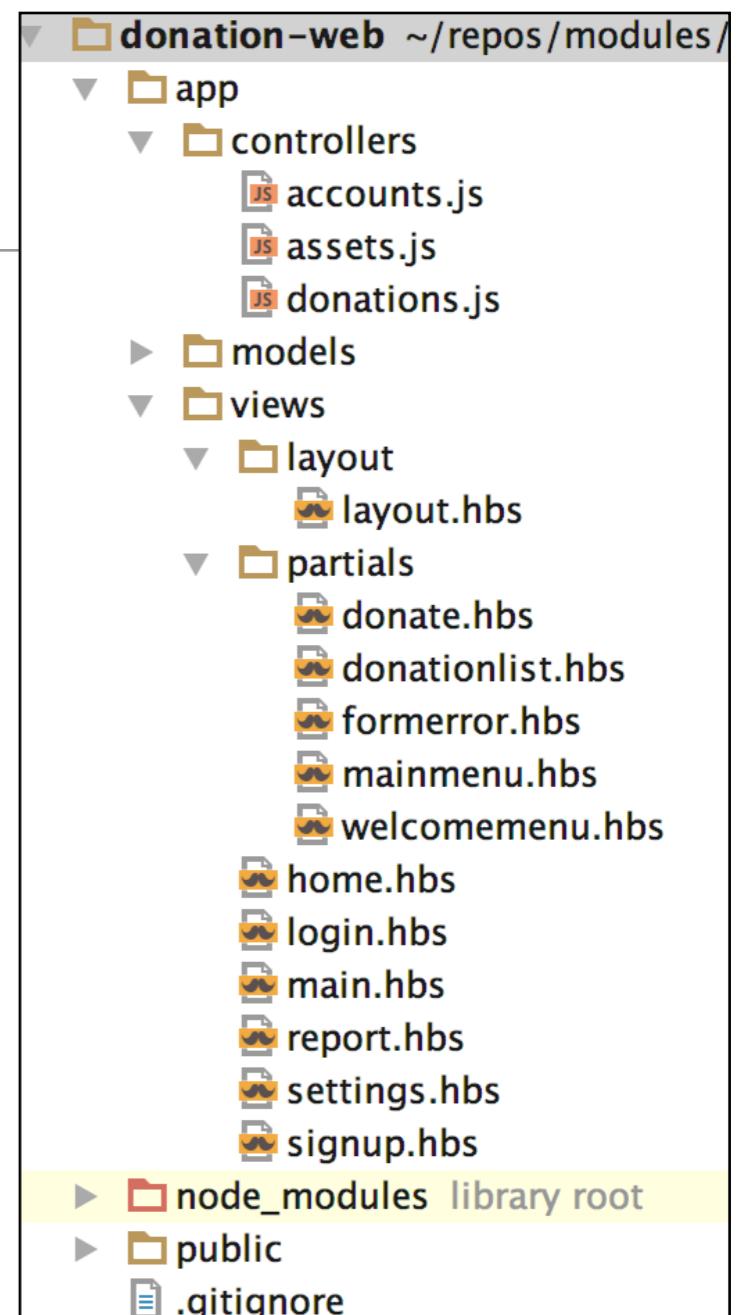
1. Commit project to git
2. Create an application using the heroku command line
3. Provision a MongoDB database
4. Prepare **package.json** for deployment
5. Push the application to heroku remote
6. Enable ‘Production’ mode, db connection, & restart
7. Monitor the Heroku Logs

1: Commit project to git

```
git add .
```

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

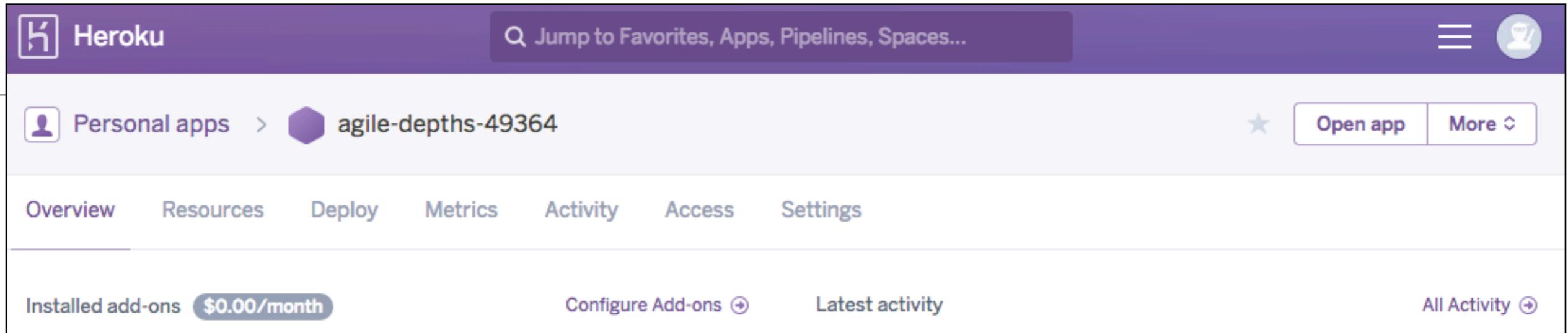
- Create gitignore file
- add all files
- commit all files



.gitignore

```
.idea  
node_modules
```

2: Create an application using the heroku command line



The screenshot shows the Heroku web interface. At the top, there is a purple header with the Heroku logo, a search bar containing 'Jump to Favorites, Apps, Pipelines, Spaces...', and a menu icon. Below the header, the URL 'Personal apps > agile-depths-49364' is displayed, with a star icon, 'Open app' button, and 'More' dropdown. The main content area has tabs for 'Overview', 'Resources', 'Deploy', 'Metrics', 'Activity', 'Access', and 'Settings'. Under 'Overview', it shows 'Installed add-ons \$0.00/month', 'Configure Add-ons', 'Latest activity', and 'All Activity'. The 'Activity' section is currently selected.

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

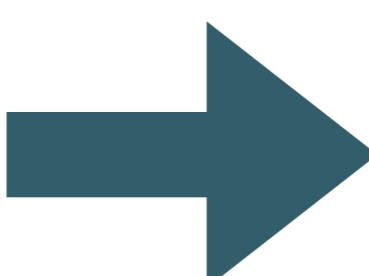
Because we are using a mongo database, we need to provision this feature:

```
heroku addons:create mongolab
```

This should respond as follows:

```
Creating mongo
Adding mongolab-silhouetted-58540 to agile-depths-49364
Setting MONGODB_URI and restarting agile-depths-49364...
Welcome to mLab. Your new subscription is active.
Use `heroku addons:docs mongolab` to view documentation.
```

Require Credit Card Registration



Heroku

Personal apps > agile-depths-49364

Overview Resources Deploy Metrics Activity Access

Installed add-ons \$0.00/month

mLab MongoDB Sandbox

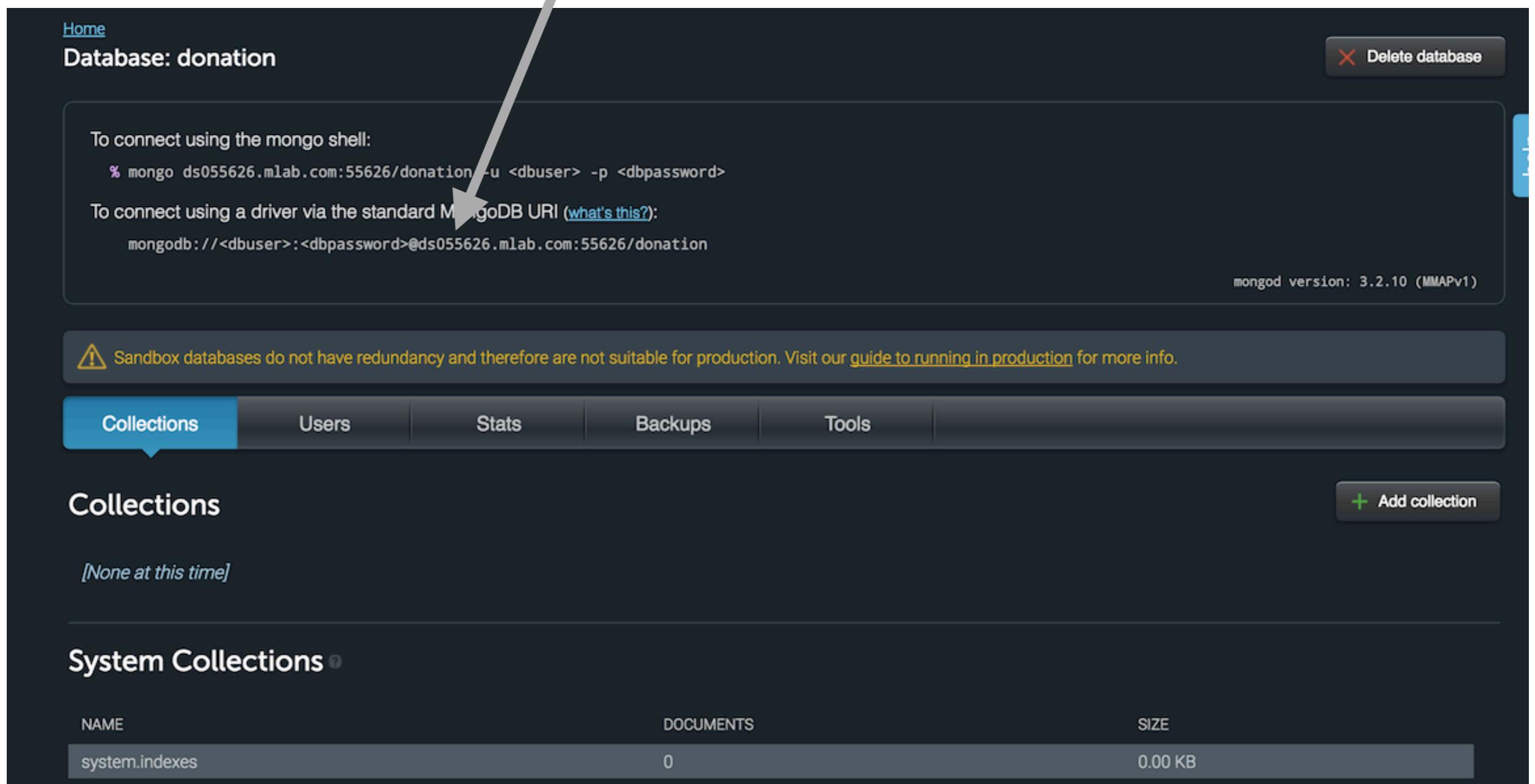
Dyno formation \$0.00/month

This app has no process types yet

Add a Procfile to your app in order to define its process types. [Learn more](#)

3: Create Mongo Database on MongoLab

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



Home

Database: donation

Delete database

To connect using the mongo shell:

```
% mongo ds055626.mlab.com:55626/donation -u <dbuser> -p <dbpassword>
```

To connect using a driver via the standard MongoDB URI ([what's this?](#)):

```
mongodb://<dbuser>:<dbpassword>@ds055626.mlab.com:55626/donation
```

mongod version: 3.2.10 (MMAPv1)

⚠️ Sandbox databases do not have redundancy and therefore are not suitable for production. Visit our [guide to running in production](#) for more info.

Collections Users Stats Backups Tools

Collections

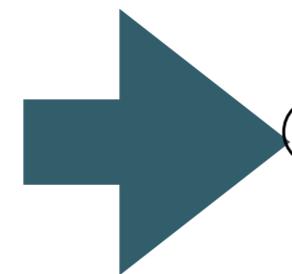
[None at this time]

System Collections [?](#)

NAME	DOCUMENTS	SIZE
system.indexes	0	0.00 KB

4: Prepare package.json for deployment

- define 'start' script
- then commit this change:



```
{  
  "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"  
  }  
}
```

```
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  
2.420000+00:00 app[web.1]: Mongoose disconnected  
2.427543+00:00 app[web.1]: Mongoose connection error: MongoError: getaddrinfo ENOTFOUND undefined
```

```
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-9c6e94851
```

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

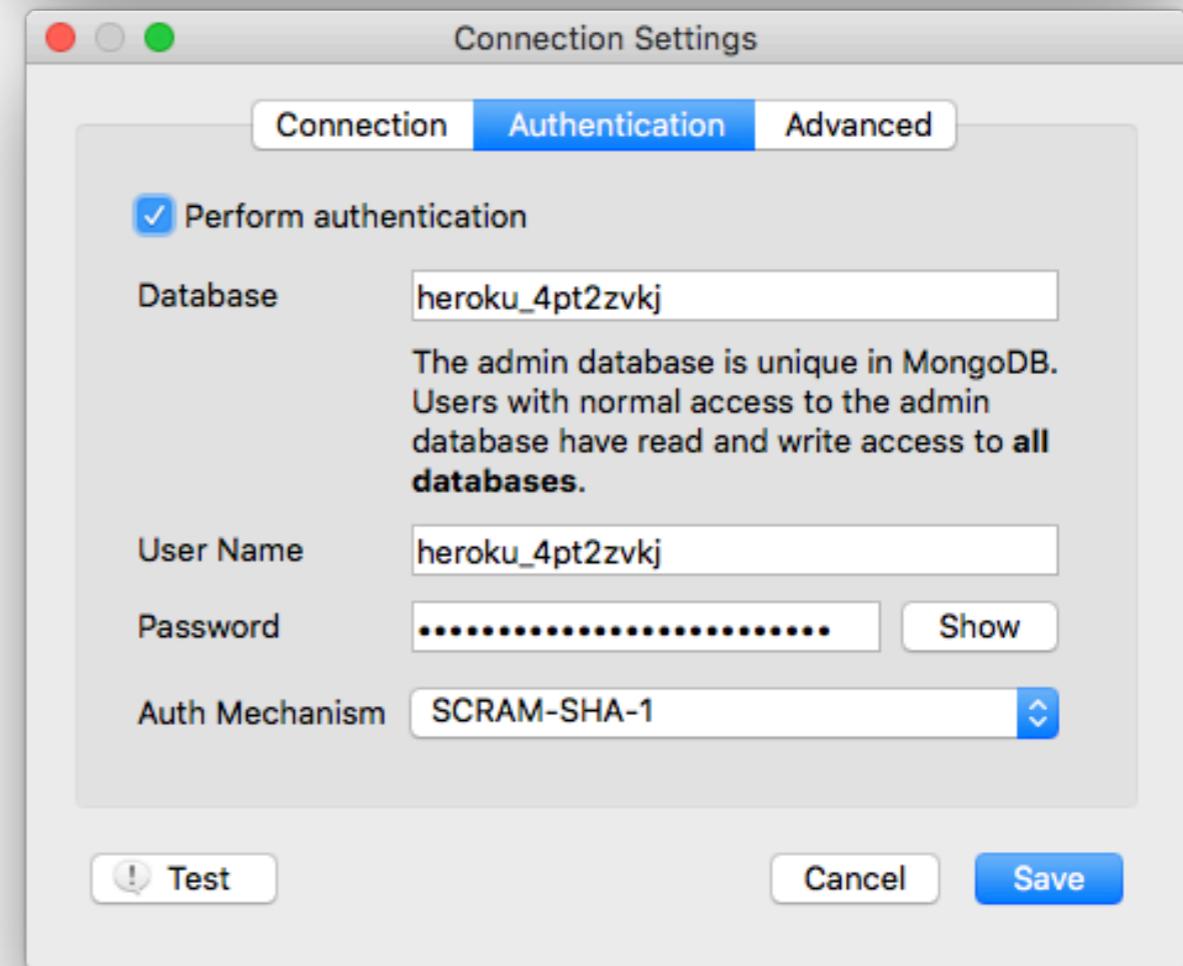
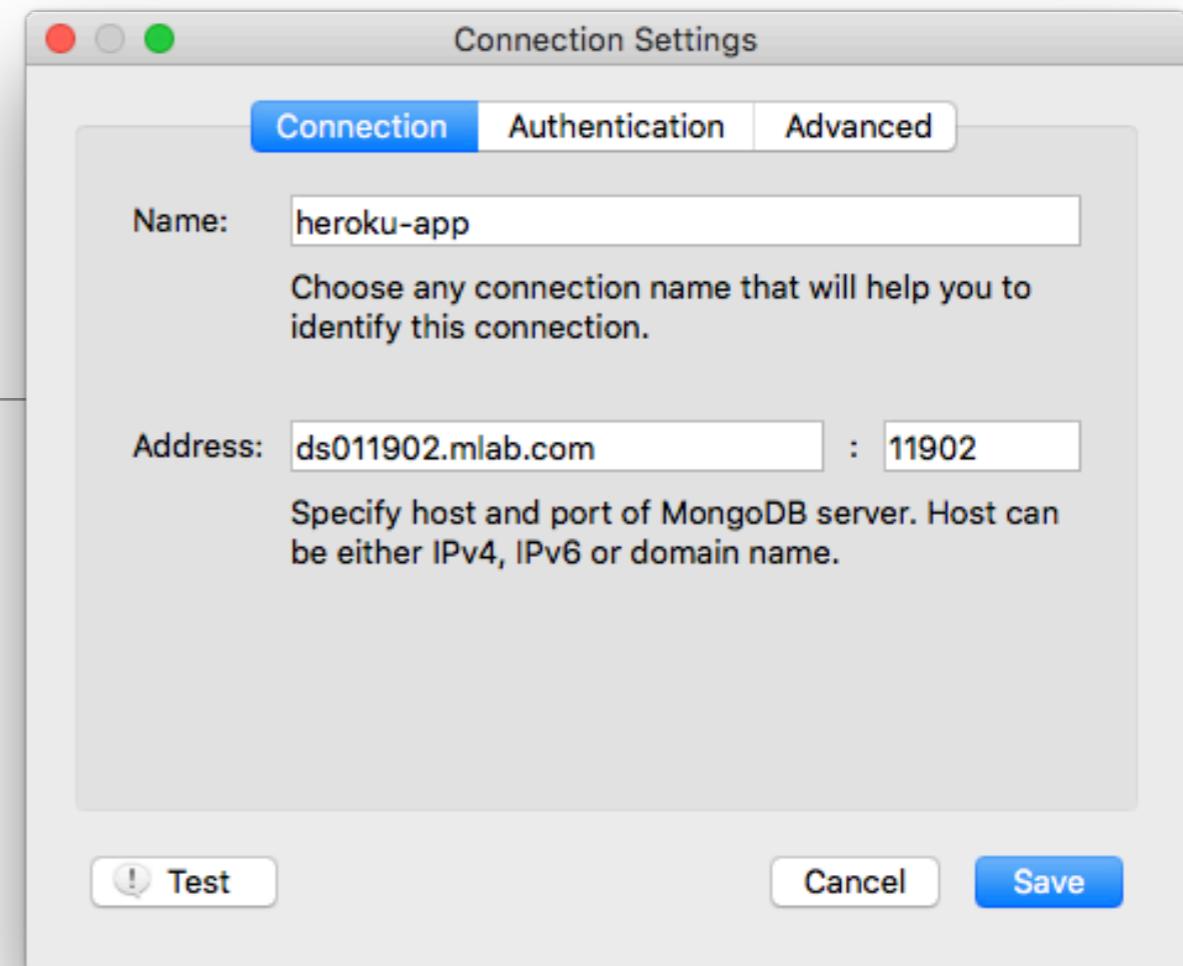
```
mongodb://heroku_4pt2zvkj:omev5e4sctvbiaa0i1t5cbstdj@ds011902.mlab.com:11902/heroku_4pt2
```

- 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

heroku-app

ds011902.mlab.com:11902

heroku_4pt2zvkj

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

users 0.114 sec.

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