

Update to ATLAS Guide

[Nightscout Unofficial Documents Links pick Here!](#)

I used the following **three** references to build this guide. If you are comfortable with technical data, you may want to just use these or this [Google Video Guide](#) provided by **mLab/MongoDB**.

It is highly recommended that you find your **Page 3** from the [Cookbook](#) that contains your email addresses, user ids, and passwords and add additional info from this upgrade so they are all in one place!

Otherwise, go to **Page 6** for
Start: **Simplified Guide to Update!!**

1. <https://docs.mlab.com/how-to-migrate-sandbox-heroku-addons-to-atlas/?fbclid=IwAR1E6aHWancLB4tuNph42fRMBP7cLWlvD3n98m2VzMfXEhMha9WwssXuBhl>

2. https://drive.google.com/file/d/1GWQUyPt6Yu0SBP0RFtg_eQnY8ixweXwq/view?fbclid=IwAR1rTg-FC8Cf1L2LWplhqO3aMIqkCCI7-TFoYuMY7iOQQMSBSRcxWf-s_ww

3. Nightscout on Heroku –
Step-by-Step

Guide for Database Migration from
Discontinued *mLab MongoDB* to
MongoDB Atlas

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July 11, 2020, U. Rueth

... you should consider migrating your existing mLab MongoDB, which currently stores your Nightscout data, to MongoDB Atlas before November 2020. There are other databases that also do the job, however, this document focuses on MongoDB Atlas migration only.

All this only concerns you if you have Nightscout running on Heroku – if you have it running on Azure, this doesn't affect you!

Migration Step-by-Step

All I'll be writing here is based on the migration guide provided by mLab:

<https://docs.mlab.com/how-to-migrate-sandbox-heroku-addons-to-atlas/?fbclid=IwAR1hhkMok4XqFdu6SXi1uJMhjycO39nwNzrJal-0OZvMSAXseFgoZOPuwll>

I just simplify it a little to make it easier – the truth is with the above migration guide J

Step 1 – Log in to Heroku and create an Atlas account

- Log into your Heroku account, as you'll be working with it later.
- In the same browser, open a new tab and create an Atlas account here:

<https://www.mongodb.com/cloud/atlas>

Step 2 – Connect your new Atlas account to your existing mLab (Heroku) account

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Click here



and then on the green “Connect to mLab” button. Select your mLab (Heroku) account.

Step 3 – Prepare migration

- Click on the green leaf beside your organization in the top left corner of the Atlas page. This brings you to your organization’s Home view.
- From the left navigation select “mLab Account”.
- Locate the mLab deployment that you want to migrate to Atlas.
- Click the ellipses (...) button for that deployment.
- Click “Configure Migration” to open the migration wizard for the given deployment.

Step 4 – Run through the migration wizard

Please see part D of the migration guide – every step is well described there. For most steps, the right settings are already pre-selected. Just a few comments here:

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- Step 2 – Import database user(s): This copies your mLab database user to your new Atlas database, i.e. you will require the same credentials (username & password) for the new database as for the old one.
- Step 6 – Test the migration: This will take some time, so be patient and wait until the process has finished. This gives you a good feeling of how long the real migration will take later.
- Step 7 – Test connectivity: This is a bit cumbersome for people not familiar with console/terminal commands. So you may either risk to skip this step or dig into the provided documentation – I will not help you with this.
- Step 8 – Ensure independence from the Heroku add-on's config var: **This is a very important step!** Therefore step-by-step:

- In your browser, switch back to the tab where you have logged into your Heroku

dashboard and select your Nightscout project. ◦ Go to the Settings page: ◦ Spot the

variable with the name “MONGODB_URI” or “MONGOLAB_URI” or

“MONGOLAB_<color>_URI” so similar. This variable has been automatically

provisioned back when you deployed Nightscout on Heroku.

- Copy the value of that variable, the old database connection string, which should look similar to this: `mongodb://<username>:<password>@...`

Remember: The part before the colon is your old and new database username, the part after the colon up to the @ your database password. ◦ Create a completely new variable at the end of your variable list with the variable name “MONGO_CONNECTION” and paste the old database connection string as value. You'll need to modify that value as very last

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step later, however, it's important to store its value for the time being, as the old variable will be automatically deleted.

- Step 9 – Migrate: Go for it! And be patient, it might take a while.

As last and very important step: After migrating, you will be presented the new database connection string, which should look similar to this:

```
mongodb+srv://<username>:<password>@heroku-
```

```
xxxx.mongodb.net/heroku_rpq0ctq8?retryWrites=true&w=majority
```

Replace the value of the MONGO_CONNECTION variable from step 8 above with this new database connection string and make sure that you use your old <username> and <password>.

All set! Nightscout should be working now. You may now manually delete the old mLab database from your Heroku project:

Step 11. Delete mLab deployment (instructions only)

To delete the source mLab deployment, you will need to delete the Heroku mLab add-on via Heroku's interface.

CRITICAL WARNING

Deleting your Heroku mLab add-on will also delete the config variable that was automatically created when the add-on was first created (e.g., "MONGODB_URI" or "MONGOLAB_URI"). Ensure that you completed the first step of the [Pre-Migration Setup](#) before deleting the Heroku mLab add-on.

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Start of: **Simplified Guide to Update!!**

Note: Insure that your Heroku site Version is **14.X.Y** -
Found at bottom of downloader settings page!

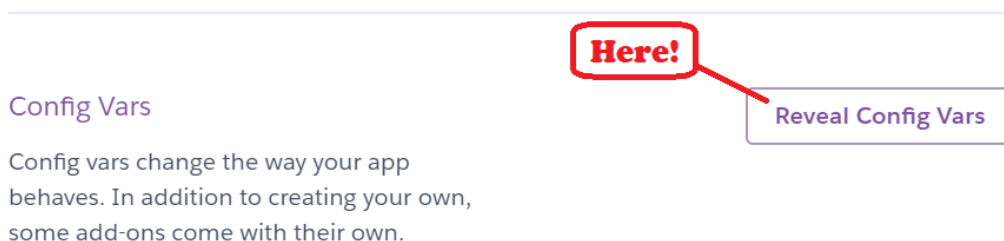
Step 1 – Log into your Heroku account on a PC/Mac/Tablet - It is **important** to not switch devices during upgrade!

Pick here: <https://heroku.com>

Step 2 - Pick your Heroku site ID (◆ <your user name>)

A - Go to the **Settings** (top middle of the page)

B - Pick **Reveal Config Vars**



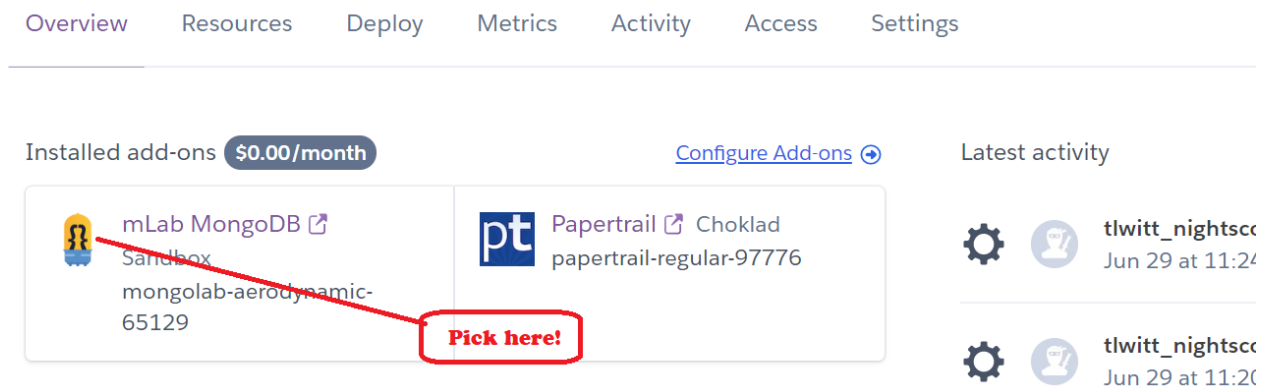
C - Config Vars in alphabetical order - find the variable with the name **MONGODB_URI** or **MONGO_CONNECTION** or **MONGOLAB_URI** or **similar**. This variable was automatically created back when you originally deployed Nightscout on Heroku.

Copy the value of that variable, the old (current) database connection string, which should look similar to this:
mongodb://<username>:<password>@...

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D - Scroll to the bottom of Config Vars and find the **KEY** and **VALUE**. Enter in the **KEY** box **MONGO_TEMP** and paste the **copied text** into **VALUE** then pick the **Add** button!

E - Now select the **Overview** and then pick the **mLab MongoDB** icon (Shown below)



******* Important to leave Heroku and mLab pages open and return to Step 3 below!**

Step 3 – Now we will create an Atlas account

Pick here: <https://www.mongodb.com/cloud/atlas>

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MongoDB Atlas

Move faster with a cloud MongoDB service. Built for agile teams who'd rather spend time building apps than managing databases. Available on AWS, Azure, and GCP.

Start free

Pick here to get started!

Cloud Provider & Region
Choose your preferred cloud provider and the region nearest to clients

Select a cloud provider to see its region availability.

Configure a **free tier cluster** by first selecting a region labeled with **FREE TIER AVAILABLE** then choose the M0 option in the Cluster Tier below.

★ recommended region ⓘ

NORTH AMERICA	EUROPE	ASIA
N. Virginia (us-east-1) ★ FREE TIER AVAILABLE	Ireland (eu-west-1) ★	Tokyo (ap-northeast-1)
Ohio (us-west-1) ★	London (eu-west-2)	Seoul (ap-northeast-2)
N. California (us-west-1)	Frankfurt (eu-central-1) ★ FREE TIER AVAILABLE	Singapore (ap-southeast-1)

Note: If you do not see “**Start free**” then go to top right and log out and then go back and start **Step 3** again!!!

Step 4 – Enter new account info - caution, it may require a new/not used yet email address.

Optional: How are you using MongoDB ? = I'm migrating an app to Atlas (Cloud)

_____ or _____

Your Company (optional)

Your Work Email

First Name

Last Name

Password

8 characters minimum

☐ I agree to the [terms of service](#) and [privacy policy](#).

Get started free

Already have an account? [Sign in](#).

Be sure to write these down on your Cookbook Page 3 for future reference. No one can help you if you lose these!!

Check this box

When complete pick here to create your New ATLAS account!!

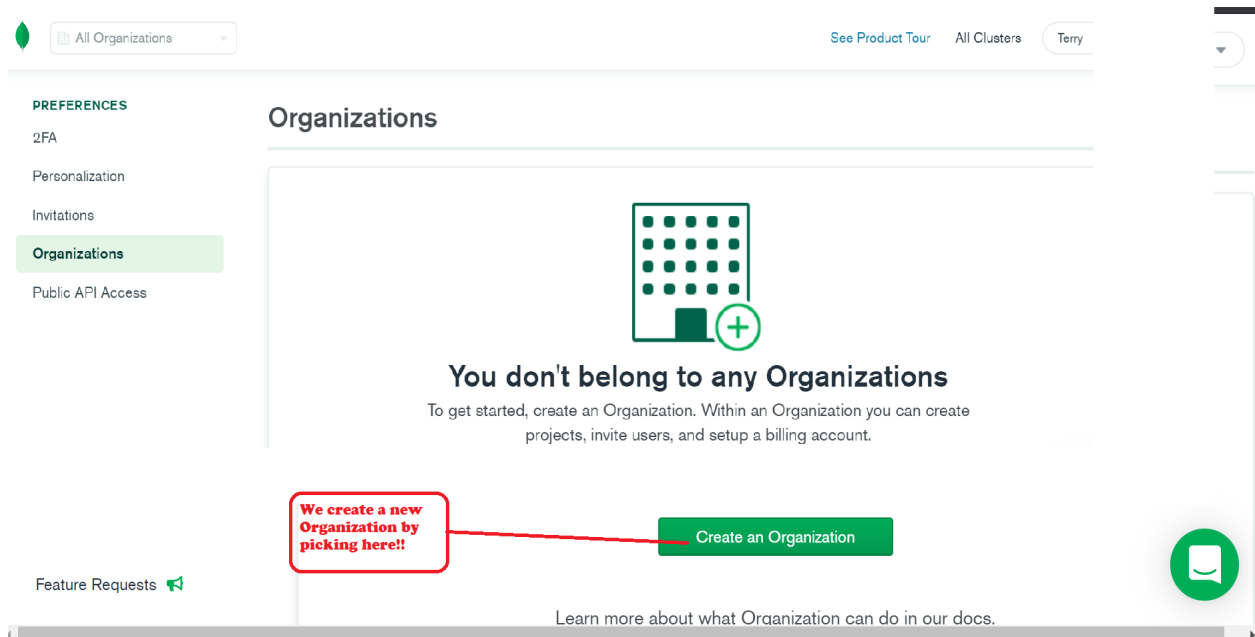
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Pick **Create a Cluster** “FREE” then pick the Green leaf icon left corner of page. If necessary pick “**Get Started**” or “**Skip**” or “**Dismiss**” on bottom of the next page also!

Step 5 – Create a new Organization



If an Organization already existing then proceed to **Step 8** other wise continue!



Step 6 – Enter your Organization’s name (whatever you like!)

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← Organizations

Create Organization

Name and Service Add Members

Name Your Organization

OurHome

Select Cloud Service

Next

Enter your Organization name (I used OurHome, you can use your own!)

Then pick Here!

Step 7 – Finalize Organization here

← Organizations

Create Organization

✓ Name and Service Add Members

← Go Back Create Organization

Add Members and Set Permissions

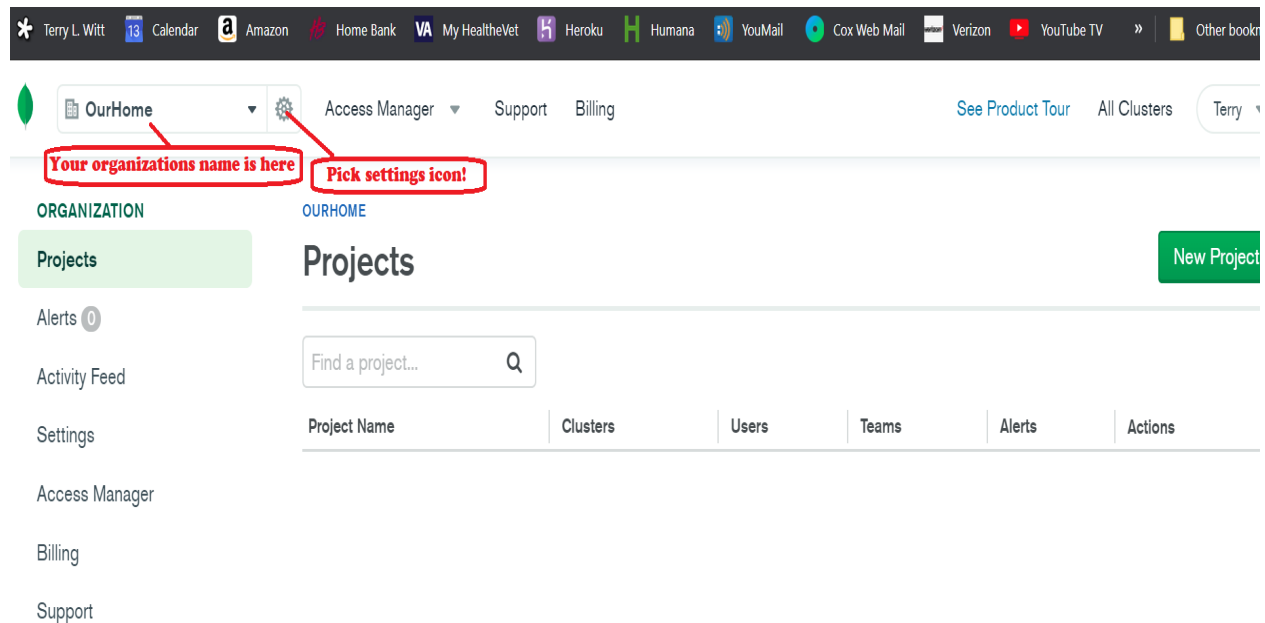
Invite new or existing users via email address...

Give your members access permissions below.

Now actually create the Organization here!

Step 8 – Go to the Settings page

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If you see the word **“Clusters”** then pick the **“Organization Name”** which is directly above the word **“Clusters! Or Organization Settings”**

Step 9 – Select Connect to mLab - toward the bottom of page

Note: if you have trouble here with connecting to mLab then try switching to a different browser. IE Internet Explorer and starting again!

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Note that restricting infrastructure access from MongoDB Production Support Employees may negatively impact cluster availability and increase support issue resolution time. [Docs](#)

Slack Settings
Authorize your Slack integration to allow you to configure alerts. [Add to Slack](#)

Connect to mLab
After reviewing [migration prerequisites](#), connect your mLab account to this Atlas organization. [Docs](#) [Connect to mLab](#)

Delete Organization [Delete](#)

[Get Started](#) 5
ature Requests

System Status: **All Good** Last Login: 70.186.166.116
©2020 MongoDB, Inc. [Status](#) [Terms](#) [Privacy](#) [Atlas Blog](#) [Contact Sales](#)

Step 10 – Authorize MongoDB Atlas here

mlab.com/atlas/authorize?client=atlas&info=5xHKd5PhVp4rKs27RVhTgkKn2l6Z3%2B...

Heroku Add-ons mLab A MongoDB Company terrysnightscout → Resources Activity Access Settings mongolab → Docs DOCS & SUPPORT ACCOUNT LOG OUT

{ user: "heroku_nmghrxmt", account: "heroku_nmghrxmt" }

Authorize MongoDB Atlas

An Atlas user, tlwitt46@gmail.com, in the "OurHome" Atlas Organization is requesting permission to connect to this mLab account, "heroku_nmghrxmt".

Once the above Atlas Organization has been connected, it will be able to:

- View mLab account and user information
- View/modify/delete mLab deployments and their data

[Cancel](#) [Authorize](#)

Pick here!

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Step 11 – Under Actions “...” and pick **Configure Migration**

The screenshot shows the MongoDB Atlas 'OurHome' dashboard. The left sidebar contains navigation links: ORGANIZATION, Projects, Alerts (0), Activity Feed, Settings, Access Manager, Billing, Support, and mLab Account. The main content area is titled 'heroku' and shows a table of deployments. The table has columns: Deployment, Cloud, Plan, RAM, Storage, Migration Status, and Actions. The first deployment is on AWS us-east-1, Sandbox plan, shared RAM, 0.5 GB storage, and N/A migration status. A red box highlights the three dots in the Actions column, with a callout saying 'Pick these three dots!'. At the bottom, there is a 'Get Started' button and a 'Feature Requests' link.

Step 12 - **Complete the tasks in the migration wizard**

A: Target Project

Configure Migration

- Target Project

We start here!

Create or Select Target Project

- Database Users

Import Database Users

- IP Whitelist

Import Whitelist Entries

- Target Cluster

Create or Select Target Cluster

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Configure

- Target
- Data
- IP W
- Target

5 **Get Started**

Migrate **XXXXXXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX**

Project

Create New Project

Project Name

terrysnightscout

Make up a unique Project Name for your project and then Confirm Project and Continue!

Cancel Confirm Project And Continue ▾

Clusters are stored in Atlas projects, each of which live underneath an Atlas organization.

Unlike with mLab, different Atlas clusters can share the same database users and network configuration. Specifically, be aware that **Atlas clusters within a given Atlas project share the same database users and whitelisted IP addresses.**

We recommend placing production, development, and test clusters in different projects.

[View documentation on projects](#)

B: Database Users

Configure Migration

✓ **Target Project**

Set to terrysnightscout

Change Target Project

● **Database Users**

Now pick here!

Import Database Users

● IP Whitelist

Import Whitelist Entries

● Target Cluster

Create or Select Target Cluster

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Target

Set to

Data

IP W

Target

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Import Database Users

Unlike with mLab, different Atlas clusters can share the same database users. Specifically, be aware that **Atlas clusters within a given Atlas project share the same database users**. [View documentation on Configuring Database Users](#)

You can [configure Atlas database users](#) by selecting "Database Access" in the left navigation for the target project. You can also import your database users right from this screen now, or manually later.

mLab Username	mLab Privileges	Mapped Atlas Privileges	☒ Import
heroku_	dbOwner@heroku_	dbAdmin@heroku_	☒

[Review differences](#)

Then pick here!

Cancel Import Database Users And Continue

C: IP Whitelist - select Import Whitelist Entries

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Import Whitelist Entries

Unlike with mLab, in order to access an Atlas cluster, you must configure an IP whitelist in the Atlas project. Be aware that **Atlas clusters within a given Atlas project share the same IP whitelist**. [View documentation on IP Address Whitelisting](#)

mLab's Sandbox and Shared plan deployments are accessible by all IP addresses. You can [configure Atlas whitelist entries](#) by selecting "Network Access" in the left navigation for the target project or check the box below to whitelist all IPs.

☒ Allow all IP addresses (0.0.0.0/0) on the target Atlas project, terrysnightsout. I understand that although this configuration will match that of my existing mLab deployment, it's recommended to whitelist only the addresses that require access.

Check this box and then select Here!

Cancel Allow All And Continue

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D: Target Cluster - Create or Select Target Cluster

Note: Create most equivalent new cluster!!!

Create or Select Target Cluster

██████████/heroku_██████████ be migrated to the cluster you select below.

We highly recommend selecting the **Create most equivalent new cluster** option as that will automatically create the most equivalently sized target Atlas cluster on the correct MongoDB version and in the correct cloud region.

Cluster **Pick here!** **And then Pick here!**

Create most equivalent new cluster **RECOMMENDED**

Cluster Name

heroku-██████████ **mLab: heroku_██████████**

Once your cluster is created, you won't be able to change its name.

Cloud Region

AWS us-east-1 **mLab: AWS us-east-1**

MongoDB Version

Price Estimate

\$0.00/hour or \$0.00/month

You will be billed hourly and can terminate your cluster at anytime. Price Estimate includes an estimate of data transfer costs (~0 cents/month) and backup costs (~0 cents/month) assuming the current dataset. Price Estimate assumes no support plan; in order to have database support and a response time SLA, you must ensure that your Atlas organization has subscribed to a monthly support plan. Read [details about estimating prices on Atlas](#).

Pick here and sit back and wait!

Cancel **Confirm Target And Continue**

Migration is complete!! Note - you will see some warnings “!” which are not relevant to our Nightscout applications. Don’t worry!!

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Step 13 - Complete the tasks in Migrate Deployment

A: Confirm Source and Target

Migrate Deployment

- Confirm **Start here!** **Confirm Source and Target**
- Test Migration **Perform a Test Run**
- Test Connectivity **Confirm Connectivity**
- Ensure Heroku Config Var Independence **Ensure Independence**

Review Configuration Details

Please review the Source and Target for this migration.

In the next step we will provide information about migration mechanics and next steps.

	Source (mLab)	Target (Atlas)
Name	██████████_nmghrxmt	heroku-nmghrxmt In the "terrysnightscout" project
Cloud Region	AWS us-east-1	AWS us-east-1
MongoDB Version	3.6	4.2
Tier	Sandbox Shared RAM, 0.5 GB storage	M0 Shared RAM, 0.5 GB storage

After reviewing info pick here!

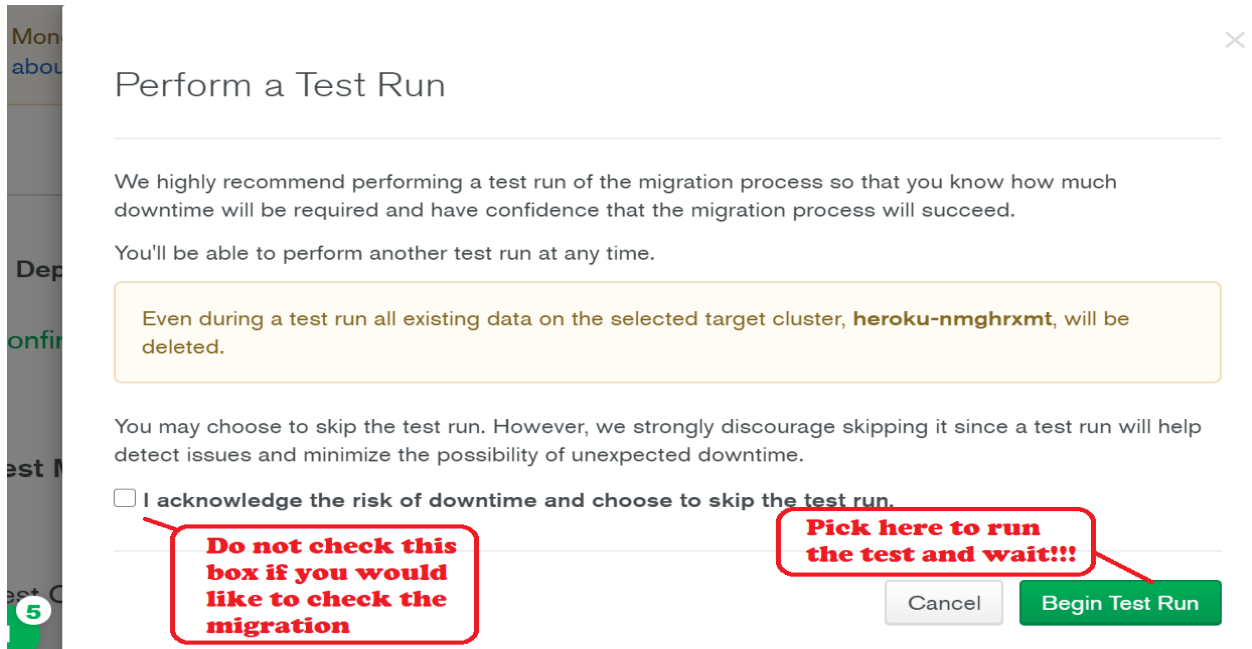
5

Cancel **Confirm And Continue**

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B: Test Migration - Select **Perform a Test Run**

Note: Don't forget to wait for the test to end!



The screenshot shows a modal dialog titled "Perform a Test Run" with a close button (X) in the top right corner. The dialog contains the following text:

We highly recommend performing a test run of the migration process so that you know how much downtime will be required and have confidence that the migration process will succeed.

You'll be able to perform another test run at any time.

Even during a test run all existing data on the selected target cluster, **heroku-nmghrxmt**, will be deleted.

You may choose to skip the test run. However, we strongly discourage skipping it since a test run will help detect issues and minimize the possibility of unexpected downtime.

☐ I acknowledge the risk of downtime and choose to skip the test run.

At the bottom, there are two buttons: "Cancel" and "Begin Test Run".

Two red callout boxes with arrows pointing to the dialog contain the following instructions:

- One box points to the checkbox and says: **Do not check this box if you would like to check the migration**
- Another box points to the "Begin Test Run" button and says: **Pick here to run the test and wait!!!**

C: Test Connectivity - Select **Confirm Connectivity**

Note: Pick the **Copy icon** in this display to capture your new **connection string** for your Heroku site to connect to the Atlas database.

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database credentials are working.

4 To also test **application driver compatibility**, connect to the Atlas cluster using your application code and driver with the same connection string.

Atlas cluster's connection string:

```
mongodb+srv://heroku_nmghrxmt:<password>@heroku-nmghrxmt.qwfod.mongodb.net
```

Pick this Copy button!

If you're unfamiliar with the "mongodb+srv:" connection string prefix, visit our [documentation on the DNS seedlist connection format](#).

To learn more about the `w=majority` and `retryWrites=true` options, visit our [documentation on these connection string options](#).

> Having trouble connecting?

I choose NOT to confirm Connectivity!

Cancel Confirm And Continue Confirm And Close

5

D: Ensure Heroku Config Var Independence - Select Ensure Independence

Note: We did step 1 shown here when we were in the Heroku site earlier!

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Ensure Independence from Heroku Add-on Config Var

When you are done migrating your mLab Heroku add-on to Atlas, you will be deleting the Heroku add-on. Deleting the Heroku add-on will not only delete your mLab deployment but it will also delete the [Heroku config var](#) that was automatically created when you provisioned the Heroku add-on.

As such, it's critical that you switch to a new Heroku config var before starting the migration process:

- 1 Copy and paste the value of the existing config var into a brand new config var (e.g., called "DB_URI").
The existing config var that was automatically provisioned should look like "MONGODB_URI" or "MONGOLAB_URI" or "MONGOLAB_<color>_URI".
- 2 Change your application code such that it no longer uses the original config var and now uses the new config var.
- 3 Redeploy your Heroku app with the code change.

If you aren't sure whether you need to do anything or could use additional help, see [our documentation on ensuring Heroku add-on config independence](#) which includes a FAQ.

I choose not to Confirm and just picked this!

Cancel

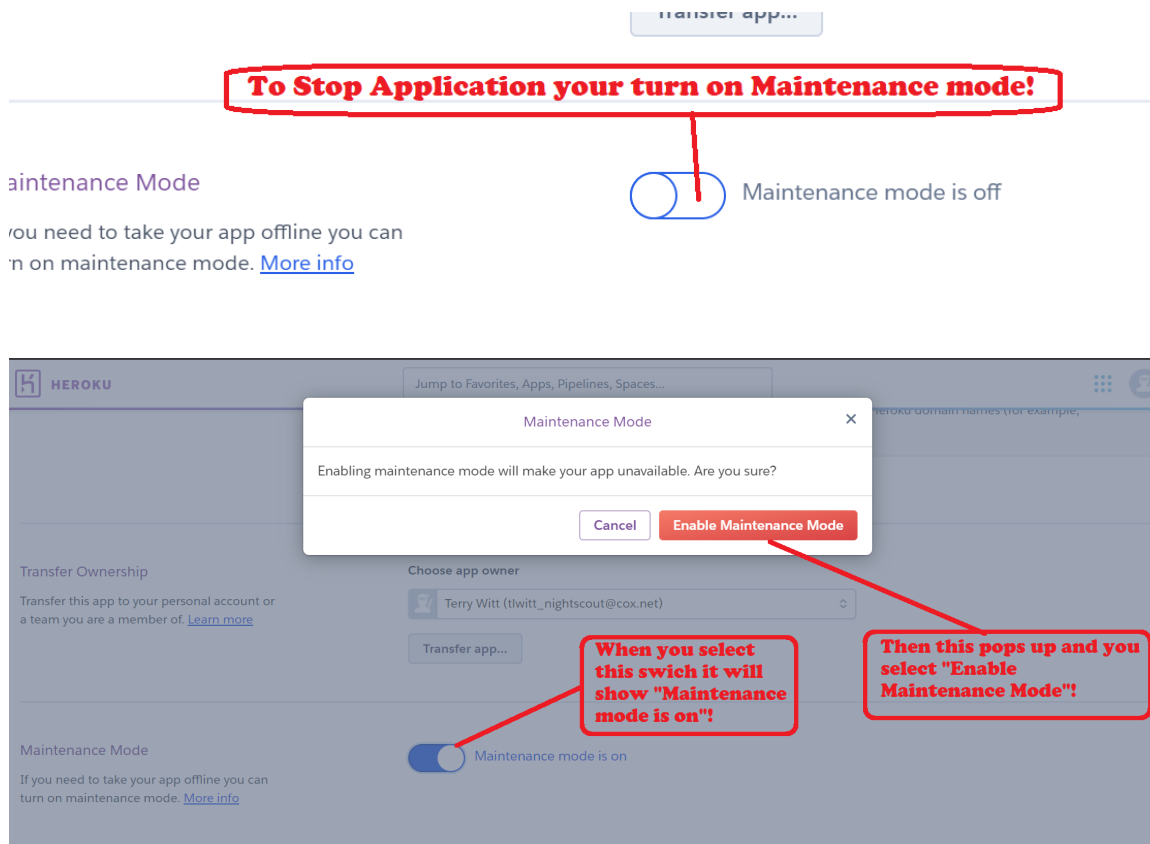
Confirm And Continue

Confirm And Close

****VERY Most IMPORTANT Step****

Stop the Heroku application -- go back to your **Heroku site** and under **Settings** scroll down until you see the **Maintenance** switch! Sliding switch turns **off** the application!!

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Then come back here to mLab/MongoDB Atlas site

Note: You may want to also turn off all your uploader devices until migration is complete to prevent possibilities of data corruption during migration!!

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E: Start Migration



F: Start using Atlas by picking **Confirm and Close** -

Note: You get a second change to copy your **MONGO_CONNECT** string on this page. === Cleanup is optional!!

Step 14 – Almost done! Open your **Heroku site** again!

A - Pick your **username** and then

Go to the **Settings** (top middle of the page)

B - Pick **Reveal Config Vars**



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C - Config Vars in alphabetical order - Look for a variable named **MONGO_CONNECTION** Please note: **NOT MONGO_COLLECTION**

If there is none then

D - Scroll to the bottom of Config Vars and find the KEY and VALUE
Enter in the KEY box **MONGO_CONNECTION** and paste the **copied connection string** into **VALUE** then pick the **Add** button!

E - Edit string by picking the pen icon

mongodb+srv://<username>:<password>@heroku.....

With your “username:password” found in the **MONGO_TEMP** string.

Note: Change just the part that is between **://** and **@ symbol** ie.

username:password which is your old username and password with a **“:”** between them!

These are will **NOT** be the same as what you used to log into mLab!

Note: Check that your **username** is also after the **“.net/”** and before the **“?”** near the end of the string!

If you should lose your **MONGO_CONNECTION**, **username**, or **password** go to this document to retrieve them from **mLab/MongoDB** and then return here!

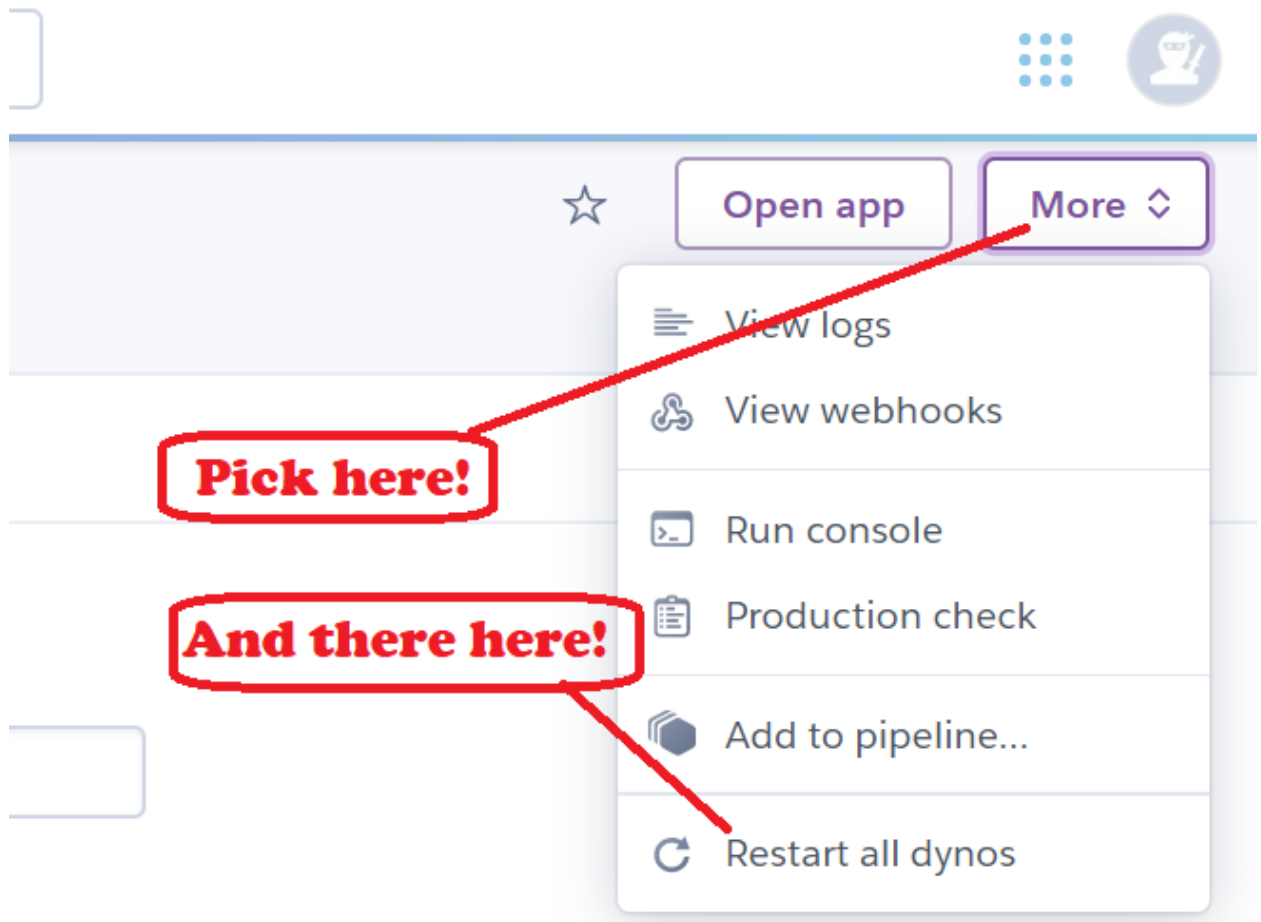
<https://docs.google.com/document/d/1otQ-WGh0yRAP8kBOa27YZj13BRD54oZEq0bO0jP5gnw/edit>

F - Restart site by turning the **Maintenance** mode back to **OFF!**

This **STARTS/ENABLES** your Heroku app again!

G - We restart the Heroku site by (upper right corner):

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All done! If all has gone well, you have successfully migrated your mLab database to the new Atas database. I offer no guarantees other than I wrote this to the very best of my capabilities and hope you find it useful. If it doesn't work then I offer to double your money back!! Oh, I almost forgot that it is free!!!!

For additional help, you can contact me by FB Private Messenger @ [Terry L. Witt](#)

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Addendum: Optional for the “**OCD**” users like me!!!

. Delete mLab deployment (instructions only)

To delete the source mLab deployment, you will need to delete the Heroku mLab add-on via Heroku's interface.

CRITICAL WARNING

Deleting your Heroku mLab add-on will also delete the config variable that was automatically created when the add-on was first created (e.g., "MONGODB_URI" or "MONGOLAB_URI"). Ensure that you completed the first step of the [Pre-Migration Setup](#) before deleting the Heroku mLab add-on.

Heroku site page:

The screenshot shows the Heroku site page with a navigation bar at the top containing links for Overview, Resources, Deploy, Metrics, Activity, Access, and Settings. Below the navigation bar, the 'Overview' tab is selected. The main content area shows 'Installed add-ons' with a total cost of '\$0.00/month'. A red box with the text 'Pick here!' points to the 'mLab MongoDB' add-on. The 'mLab MongoDB' add-on is listed with a link to 'Sandbox' and the identifier 'mongolab-aerodynamic-65129'. To the right of the 'mLab MongoDB' add-on is the 'Papertrail' add-on, listed with a link to 'Choklad' and the identifier 'papertrail-regular-97776'. A link to 'Configure Add-ons' is also visible.

Delete mLab MongoDB

Note 1: If Nightscout site is working with the new MONGO_CONNECTION string and the MONGODB_URI is removed, then the migration was successful as that is the only bridge to your new ATLAS database.

Note 2: If you get API Secret or Application Error there most probably is an error in your MONGO_CONNECTION string and you will need to repair it!!

MONGO_CONNECTION string pick here!!!