

QMethod

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Advanced Deployment



Last updated 3 hours ago

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Introduction



This article is based upon this guide and the following method is only applicable to deployment on Heroku.

Prerequisites



First you will need to create a Heroku account, install git and heroku-cli. Heroku provides an installation package that does this for you. Please follow the following guides on how to do so:

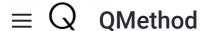
Signup for Heroku

Download and install Heroku CLI

Download and install git

Instructions to deploy QMethod App to Heroku





Open a new command line window (or terminal) and cd into a directory to temporarily hold the files for your QMethod app. Then run

git clone -b https://github.com/CITS3200GroupD/QMethod.git

- 1 cd <path/to/your/directory>
- git clone -b master https://github.com/CITS3200GroupD/QMethod.git
- 3 Cloning into 'QMethod'...
- 4 remote: Counting objects: 2302, done.
- 5 remote: Compressing objects: 100% (427/427), done.
- 6 remote: Total 2302 (delta 324), reused 177 (delta 32), pack-reused 1828
- 7 Receiving objects: 100% (2302/2302), 2.11 MiB | 1.19 MiB/s, done.
- 8 Resolving deltas: 100% (890/890), done.
- 9 Checking out files: 100% (76/76), done.

Now cd QMethod into the newly created QMethod folder for the next step.

- path/to/dir> cd QMethod
- 2 path/to/dir/QMethod>

Setting up Heroku CLI

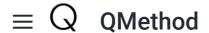
If you have not already, sign up for a heroku account and install the heroku CLI. Then, in the samw command line interface window you are already in, enter heroku --version to verify that you have heroku-cli installed.

- 1 heroku --version
- 2 heroku/7.0.0 (darwin-x64) node-v8.0.0

Next, enter heroku login and you will be prompted for your heroku account details.

- $^{
 m 1}$ heroku login
- ² Enter your Heroku credentials.
- 3 Email: adam@example.com
- 4 Password (typing will be hidden):
- ⁵ Authentication successful.

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Now ensuring that your terminal window is open in the same path as the directory holding the QMethod source files, run heroku create <APP NAME> . (Replace APP NAME with the desired name of your application (will appea in url)).

You can use git remote -v to verify that this has been completed successfully.

```
heroku create qmethod-test1app

Creating app... done, ● thawing-inlet-61413

https://thawing-inlet-61413.herokuapp.com/ | https://git.heroku.com/qmethod-tgit remote -v

heroku https://git.heroku.com/qmethod-test1app.git (fetch)

heroku https://git.heroku.com/qmethod-test1app.git (push)
```

We are now almost done with the setup for Heroku, and all we have to do is call git push heroku deploy-test:master to setup the front-end application. *ALPHA: This command is different for the release version.

If you do so you notice that the application will install and load as expected at first glance, however this will result in an error as we have yet to configure the remote mongoDB Database.

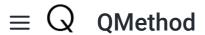
Thus before we push the files to Heroku we should create a remote database and link this to our heroku application.

Setting up your database

We will be hosting the data from our survey on a seperate remote host. This can be done either through MongoDB Atlas or mLab.

Mongo Atlas

First, go to MongoDB Atlas and sign up for a free account. MongoDB Atlas is a Database as a Service provider that provides encrypted remote mongoDB instances, which we will use to store the survey recipient data, with free and paid tiers of service. MongoDB Atlas clusters make use of the General Purpose SSD (gp2) EBS volumes, with AES-256 encryption.. All communication to and from the server is also encrypted from MOTM attacks through the use of TLS/SSL socket security.

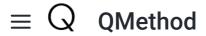


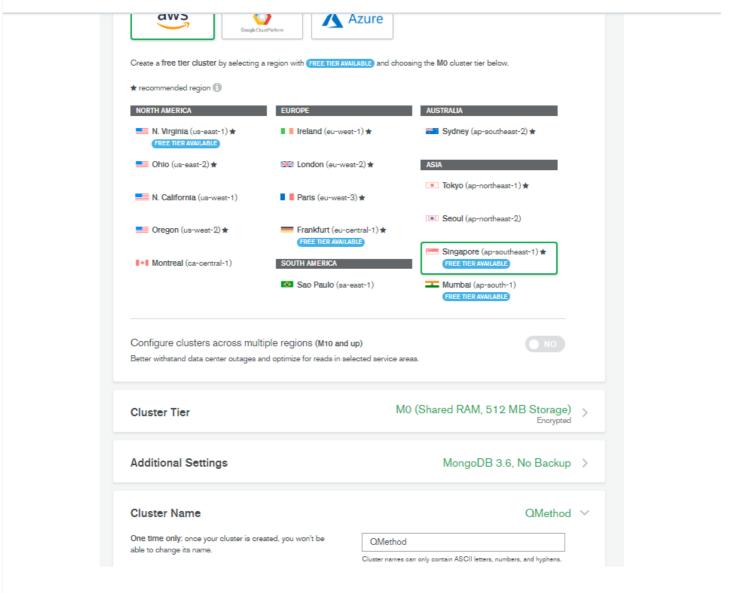
()	

No credit card required				
Email Address				
First Name	Last Name			
Password				
✓ 8 characters minimum				
✓ One number				
✓ One letter				
✓ One special character				
■ I agree to the terms of service.				
Get started free				
Already have an account? Sign	in.			

Creating a new account

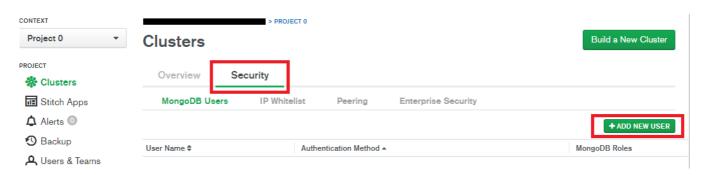
Next, select your server provider. It is recommended that you select the free AWS service tier (M0) with 512MB of storage. (This is in fact approximately enough for at least ~250,000 survey responses and thus should be sufficient even for live deployment.)





Select Server Provider

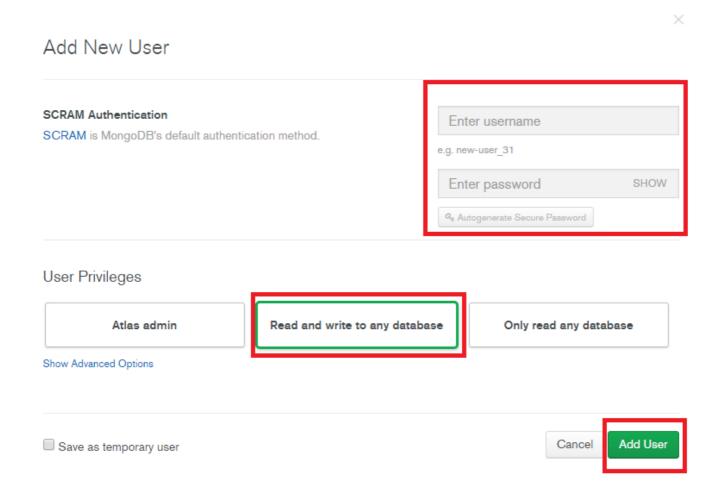
Now, after your cluster has finished initialising, go to the Security > MongoDB Users Tab and add a new user.



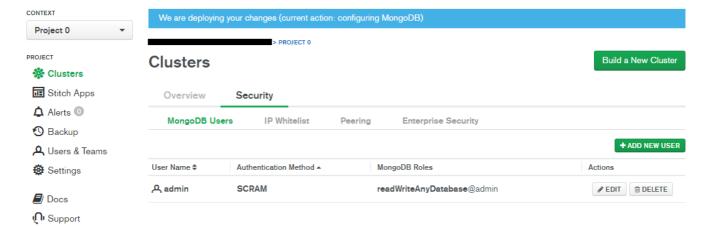
Add a new user



remember and copy down this password and save it for later, as you will need this information later.

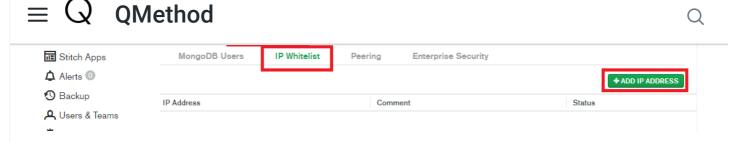


Select "Read/Write to database"



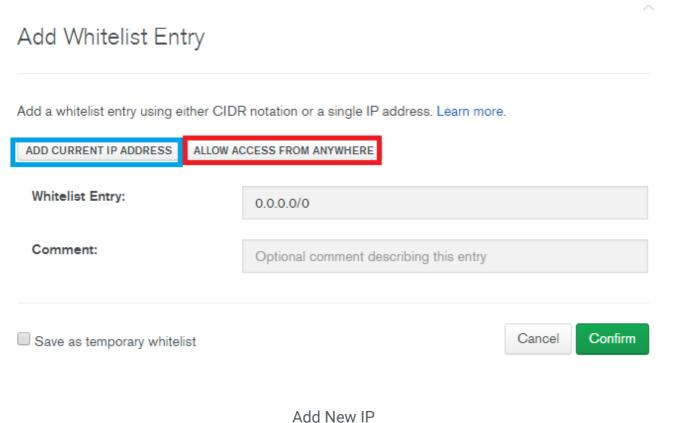
Add a new user

Now go to the Security > IP Whitelist tab, and add a new IP Address.



Add IP to IP Whitelist

You will want to repeat this process twice, as you will need to allow access firstly from your own IP address, as well as any IP address (for now). This is because the free version of the Heroku application uses a dynamic IP address which changes from time to time, whilst paid tiers of Heroku allow for a fixed static IP, which we can later add to the whitelist (whilst removing the 0.0.0.0/10 entry) for better security later on.

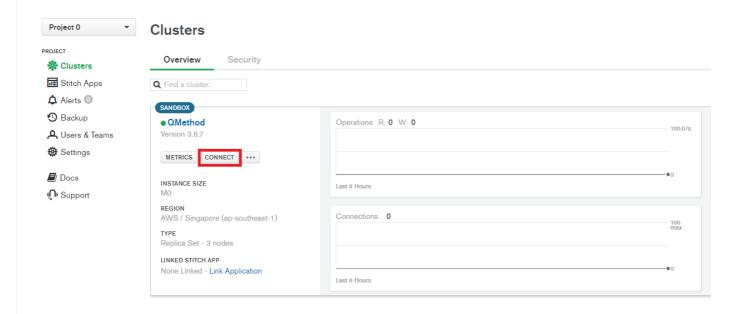




Check IP Address List

At this point, if you wish to connect to a desktop client for viewing your remote database data directly (not through the QMethod application, you may install MongoDB Compass and follow the MongoDB Compass Install guide.

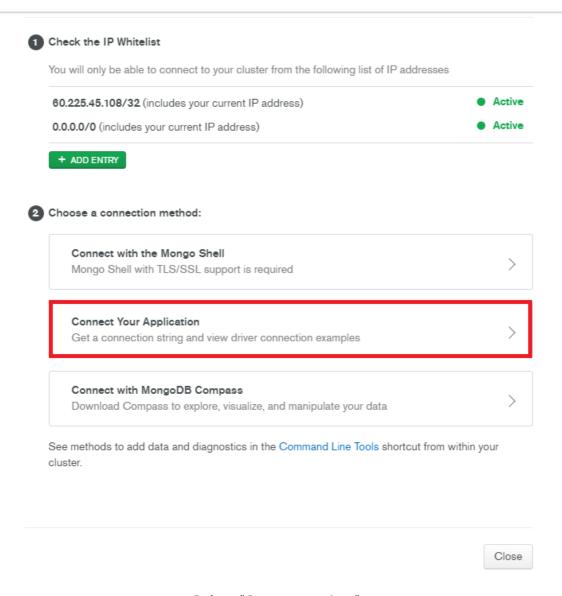
Now, go back to the Clusters > Overview page and click connect.



Go back to browser to generate connection string

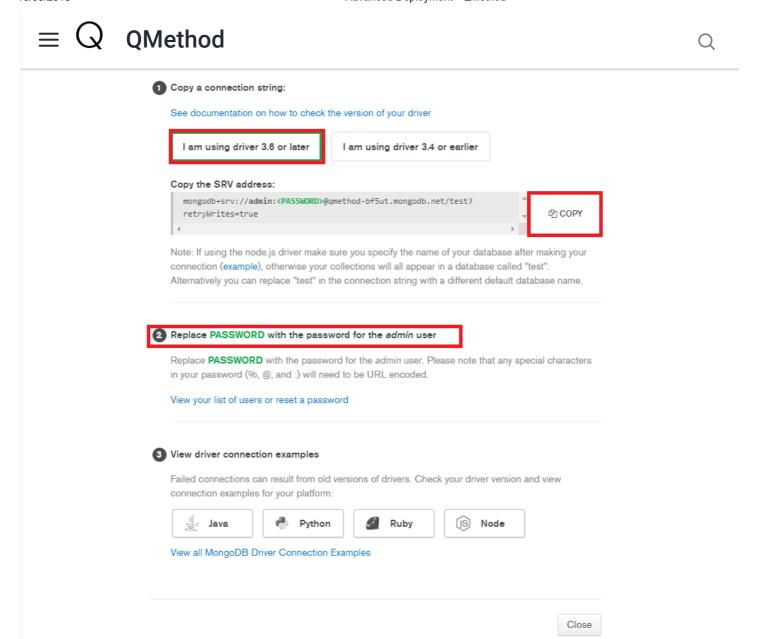


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Select "Connect to App"

We will now need to generate the string for our application's mongoDB driver.



Copy driver string

Copy this string to your clipboard. We will now be going back to our Heroku CLI terminal window and inputting this to link our database to our heroku application.

Back to Heroku

Now that our database has been fully setup, including a compass client for monitoring and viewing raw database data, we can now link our application to the mongoDB database.

heroku config:set MONGODB_URI=mongodb://<link you copied from above>

Now that the database has been linked, we can run <code>git push heroku master</code>. This will push the files to Heroku and deploy the application at the given URL. Open the URL in your browser.





Custom Domain Names



https://devcenter.heroku.com/articles/custom-domains

By default, a Heroku app is available at its Heroku domain, which has the form [name of app].herokuapp.com. For example, an app named serene-example-4269 is hosted at serene-example-4269.herokuapp.com.

To make your app available at a non-Heroku domain (for example, www.yourcustomdomain.com), you add a custom domain to it.

You can add custom domains to any Heroku app for free (however the domain name itself will have to be paid for). For security purposes, you must verify your Heroku account to add domains to apps.

Heroku does not provide a domain registration service (for registering a custom domain name) or a DNS provider service (for hosting the DNS servers that point your custom domain name to your app).

Exporting Raw JSON data from Database



Compass allows you to export and import raw database information as a json. This may be useful to store data on your local machine instead of a remote instance.