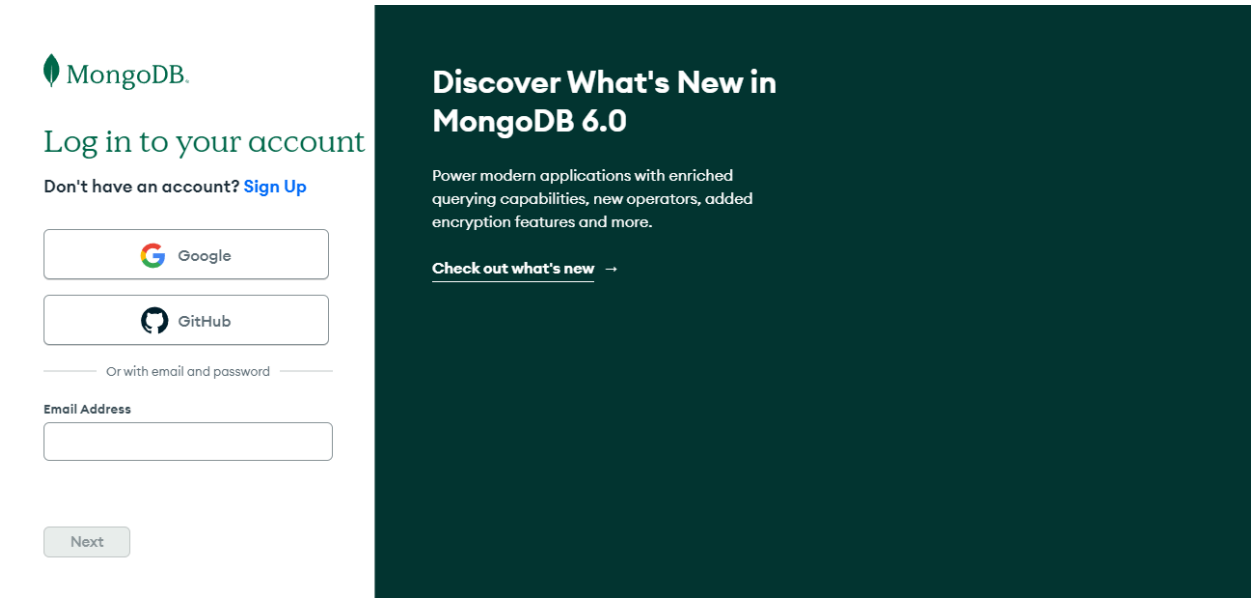
MongoDB Setup

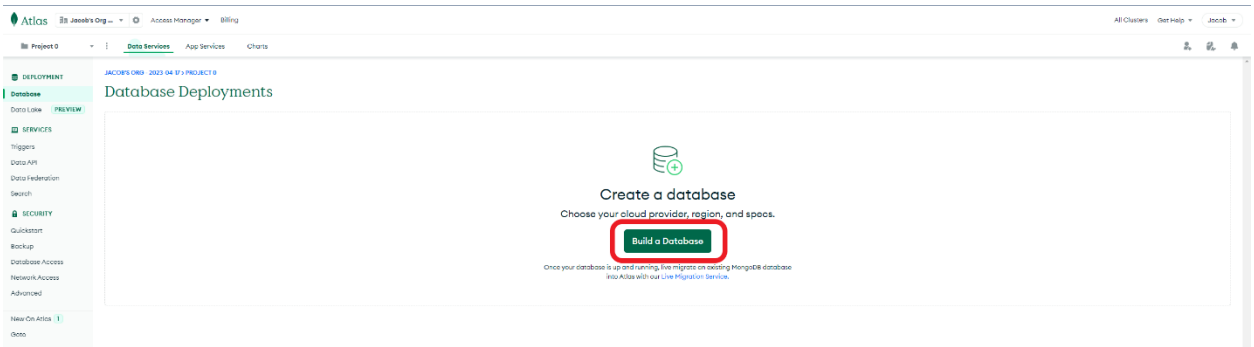
Create Account

To get started with creating the Gator Security database instance navigate to: https://account.mongodb.com/ and set up a free account.

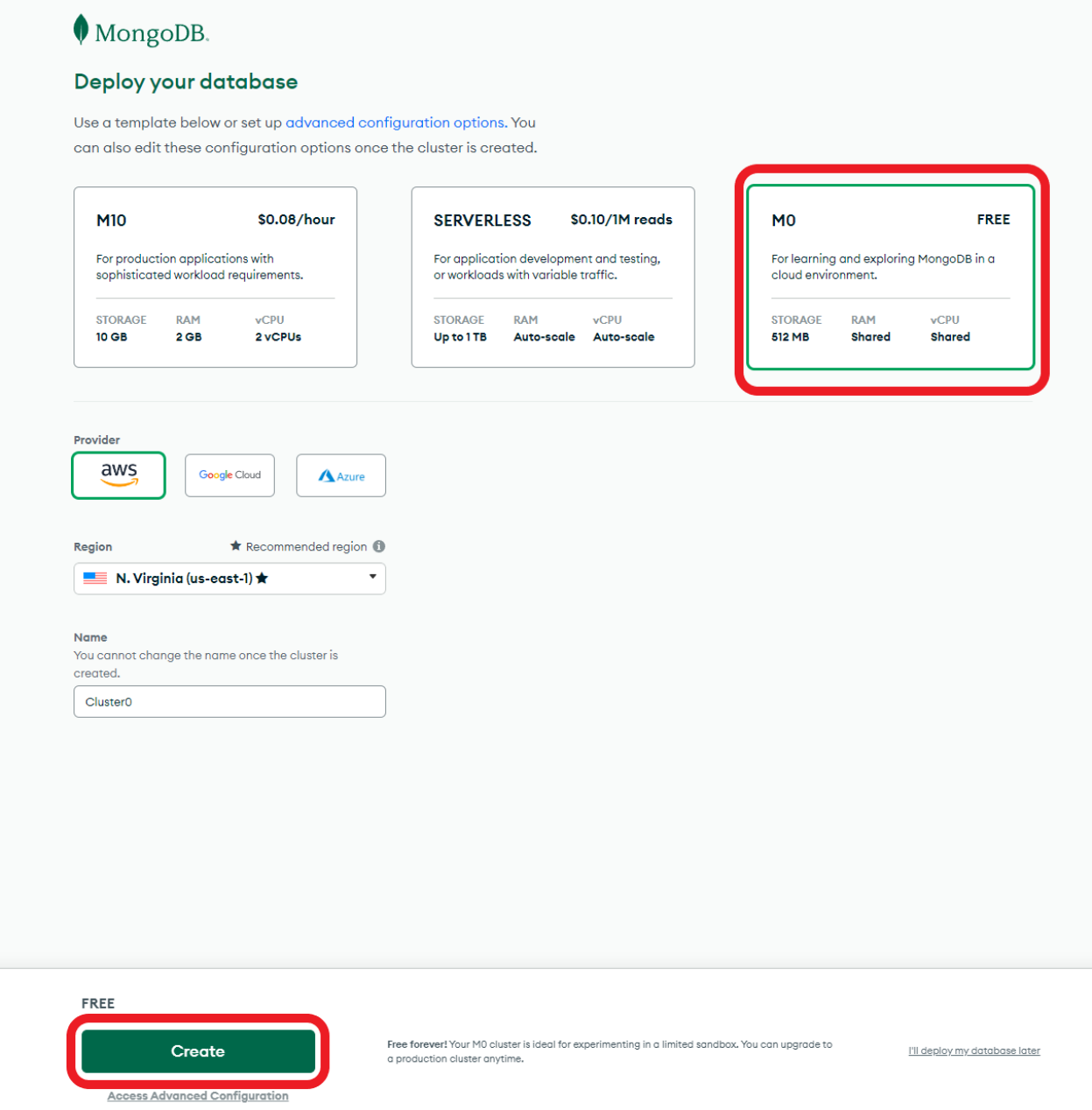


Create a New Cluster

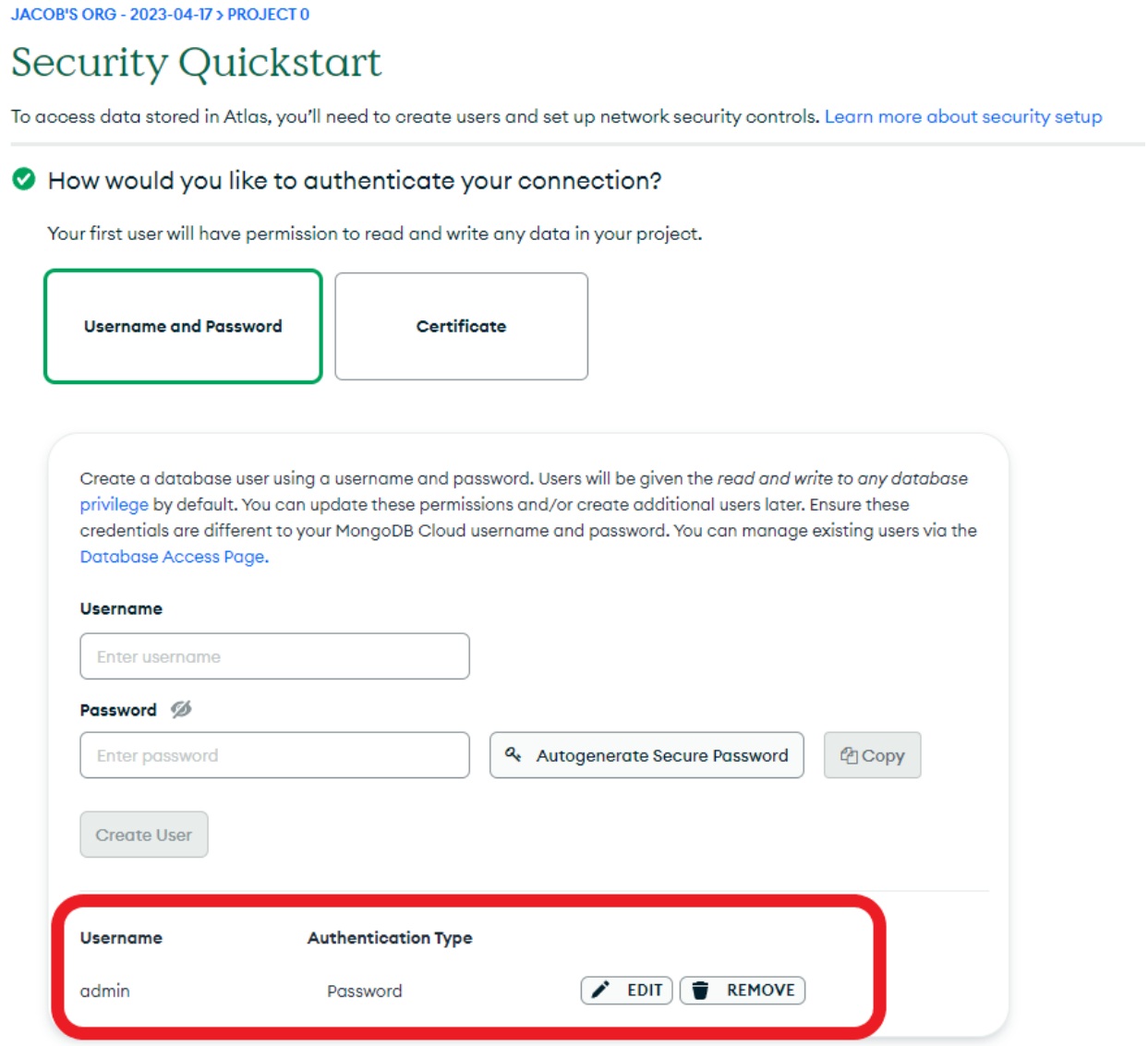
After you have created your account, login and proceed to the Atlas Dashboard. Upon account creation Atlas will automatically generate a default project named *Project0* that you can create databases within. It is not necessary to create a new project unless this is desired. While under *Database Deployments* click the *Build a Database* button to create a new cluster.



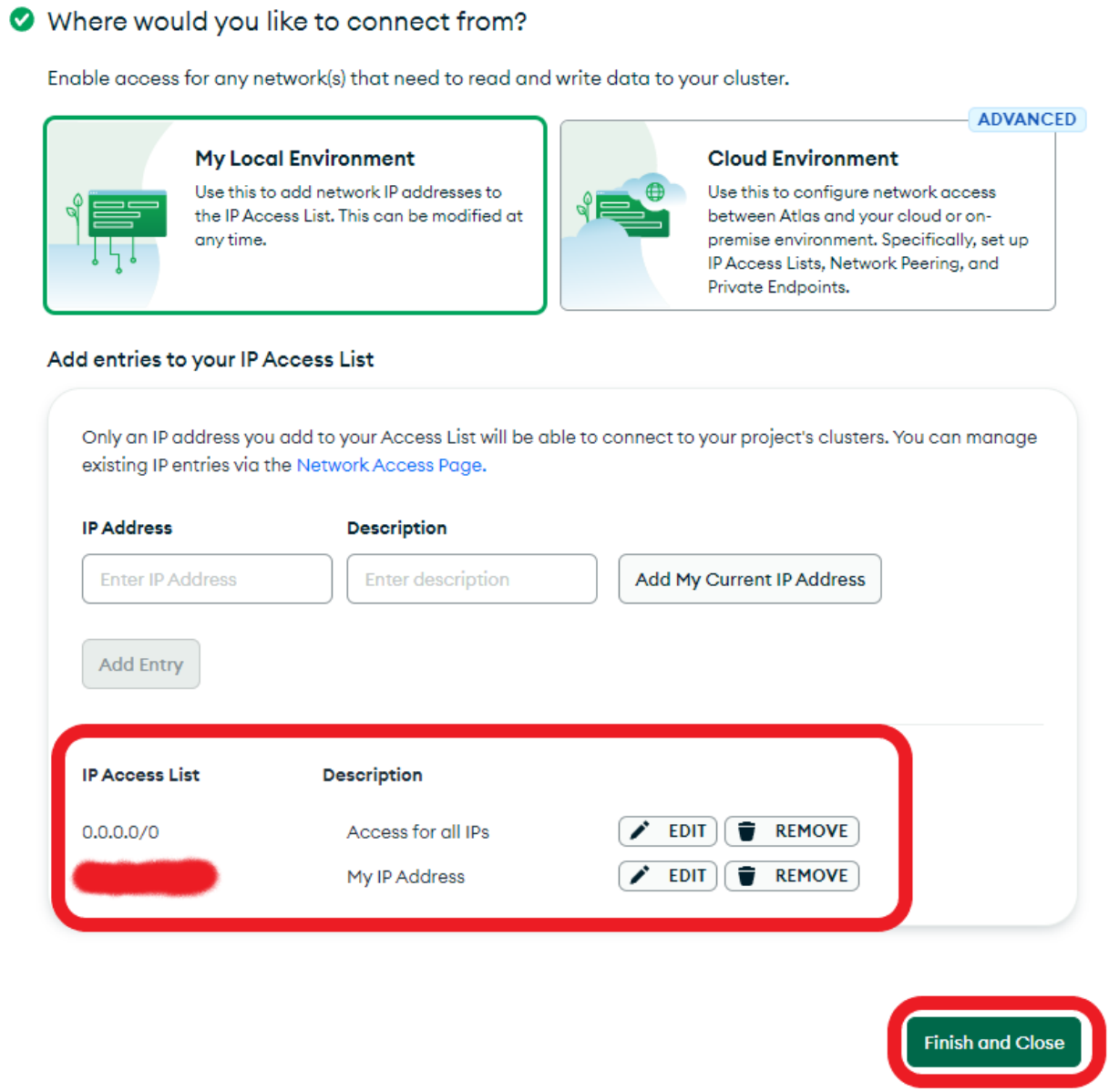
The next page will prompt you to select the type of cluster you want to create. Select the *M0 Free* option. You may change the provider for the cluster as well as the region, however, this is not necessary, and you can leave the defaults. Finally, you can choose a name for the cluster. Similarly, the default name can be left alone as this name is for the cluster (server) that the database will reside within, and not the name of your actual database. When all selections have been completed click the *Create* button to create the new cluster.



The next screen will require the user to create a database user account to access the database. This account is separate from the MongoDB user account and should have a different username and password. Make sure to save this password in a secure location as once the account has been created this password cannot be recovered and a new one must be generated. If the password is changed this can cause issues for the web application as all code that utilizes this password must also be updated.

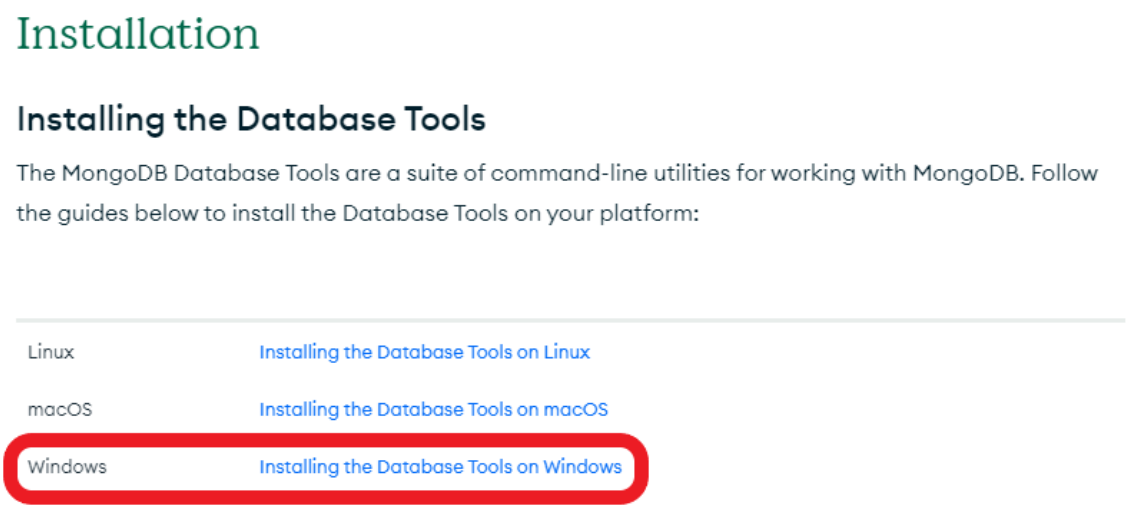


The form below prompts the user to enter any IP addresses that will be connecting to the database. For development, each user can provide their IP address to be added to the list. Alternatively, the IP address *0.0.0.0* can be entered and this will grant access to any IP address that attempts to connect to the database. The user connecting still must connect using a database user account. Once these fields have been filled out click the *Finish and Close* button.



Install MongoDB Command Line Tools

The next step involves installing MongoDB's command line tools. These are necessary to properly import the database dump into your newly created cluster. Navigate to: https://www.mongodb.com/docs/database-tools/installation/installation/ to find information on installing Database tools for various systems. This guide will go through the process in windows.



On the next window scroll down and be sure to select the instructions for using the *MSI installer*. After downloading the installer, follow the instructions provided by MongoDB.

Installation

The MongoDB Database Tools can be installed with an MSI installer, or downloaded as a ZIP archive. Select the tab below depending on your desired installation method:

MSI Installer | Zip Archive

1 Download the Database Tools MSI installer.

Open the MongoDB Download Center. Using the drop-down menu on the right-hand side of the page:

1. Select the `Windows x86_64` Platform
2. Select the `msi` Package
3. Click the **Download** button

2 Run the MSI installer.

Double-click the downloaded MSI installer to install the Database Tools. During the install you may customize the installation directory if desired.

3 Make the DB Tools available in your `PATH`.

You may wish to make the Database Tools available in your system's `PATH` environment variable, which allows referencing each tool directly on the command prompt by name, without needing to specify its full path, or first navigating to its parent directory.

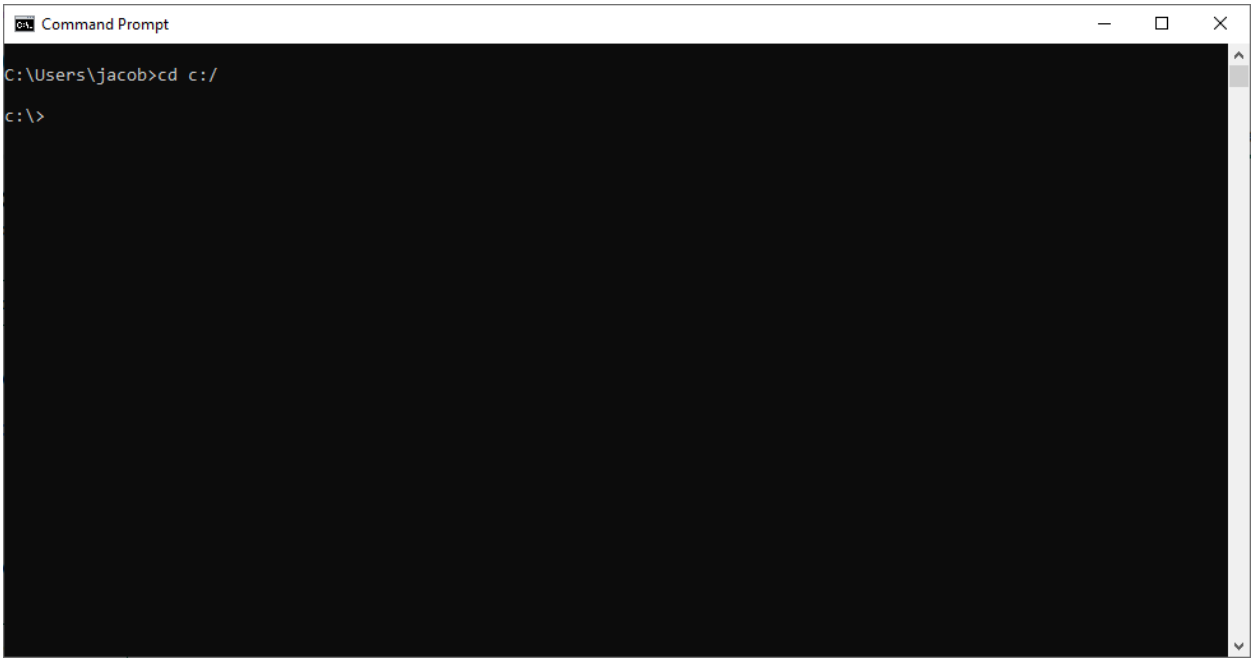
Once you've installed the Database Tools, follow the instructions below to add the install directory to your system's `PATH` environment variable.:

1. Open the **Control Panel**.
2. In the **System and Security** category, click **System**.
3. Click **Advanced system settings**. The **System Properties** modal displays.
4. Click **Environment Variables**.
5. In the *System variables* section, select `Path` and click **Edit**. The **Edit environment variable** modal displays.
6. Click **New** and add the filepath to the location where you installed the Database Tools.
7. Click **OK** to confirm your changes. On each other modal, click **OK** to confirm your changes.

Once set, you can run any of the Database Tools directly from your command prompt. Consult the reference page for the specific tool you wish to use for its full syntax and usage.

Prepare Files for Import

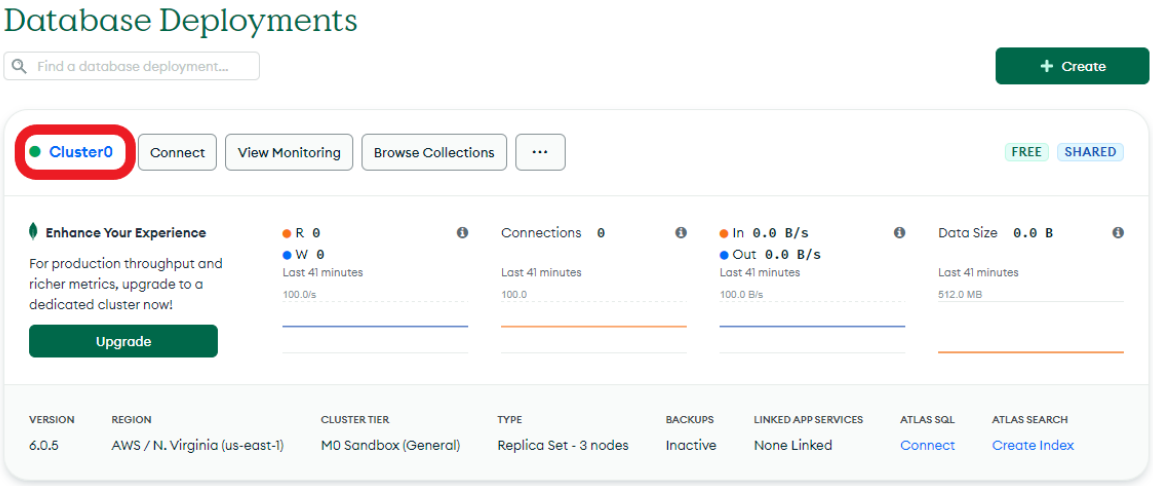
When importing into the database, the MongoDB command will look for the *dump* folder in the command line's current working directory. If desired, you may change directories to the location of the dump folder. However, for simplicity this guide will change the working directory to *c:/*. Open the command line and enter the command (inside of the quotes): *"cd c:/"*.

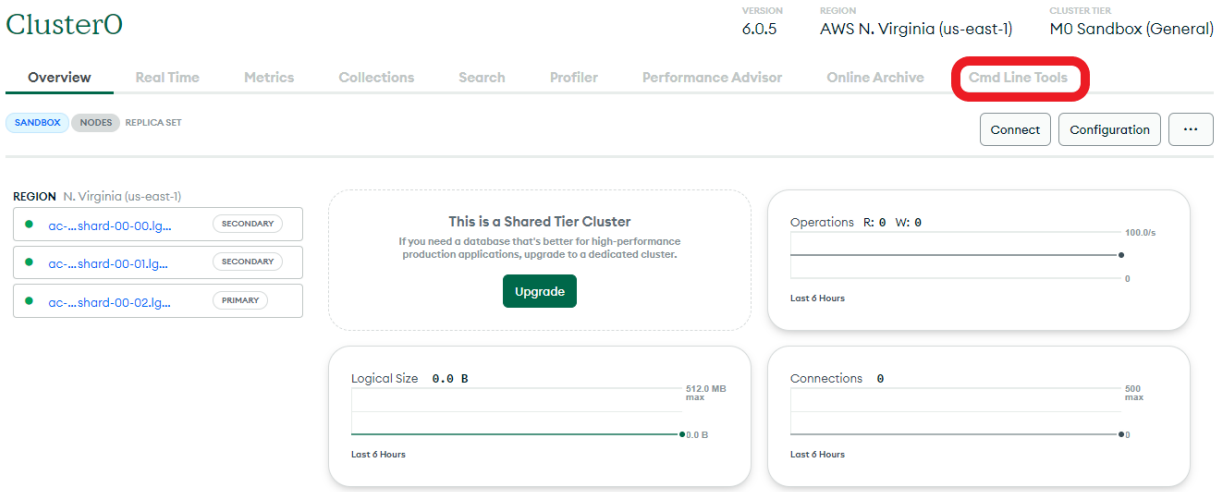


Next, unzip the *Gator_Security_DB_Dump.zip* file and place the *dump* folder into *c:/*.

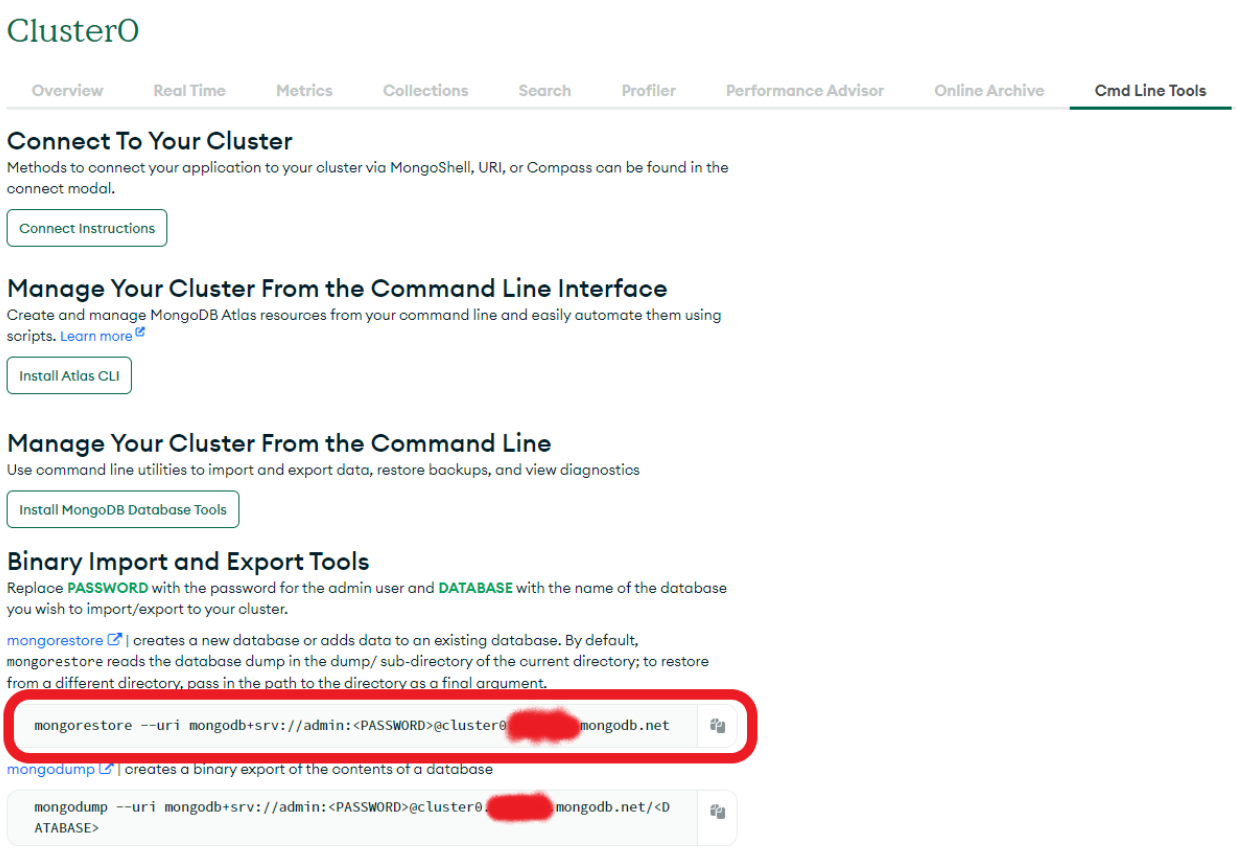
Import the Database

The last step is to locate the *Binary Import* command for your MongoDB cluster. This can be found by first selecting your cluster, and then clicking on *Cmd Line Tools*.

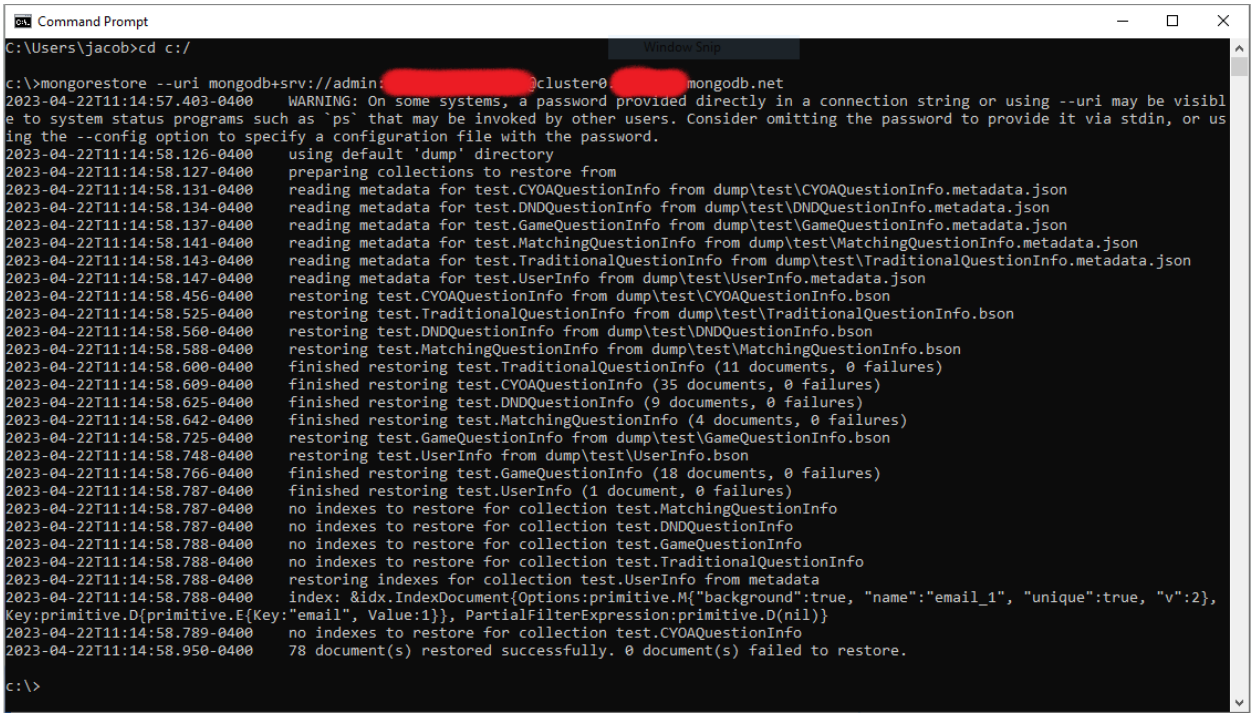




Once on the *Cmd Line Tools* tab, scroll down and look for the section on *Binary Import and Export Tools*. Copy the command given under *mongorestore* and replace the *<PASSWORD>* with the password for the database user account created in the previous section.

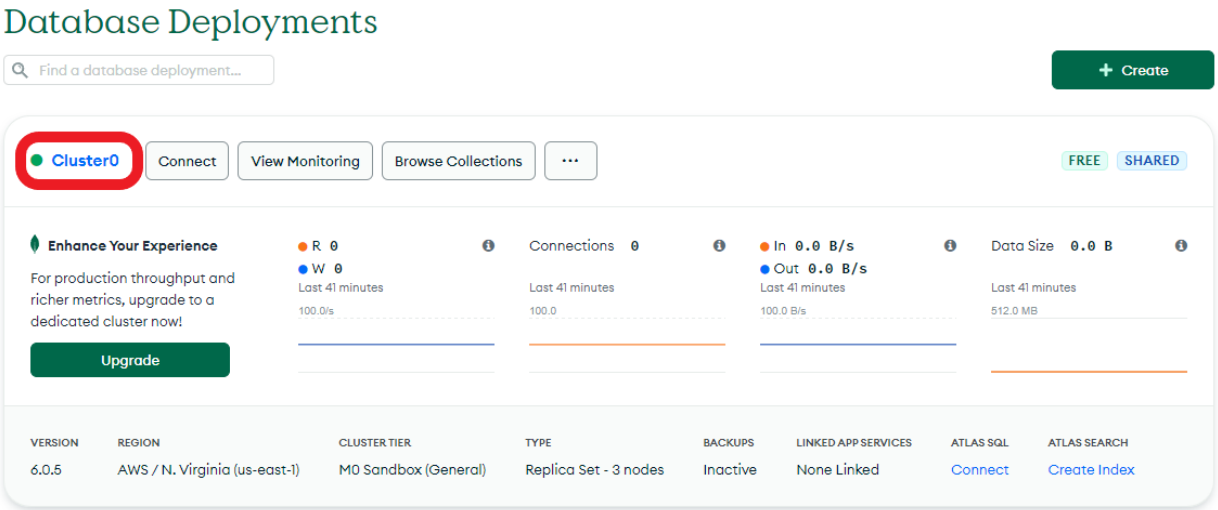


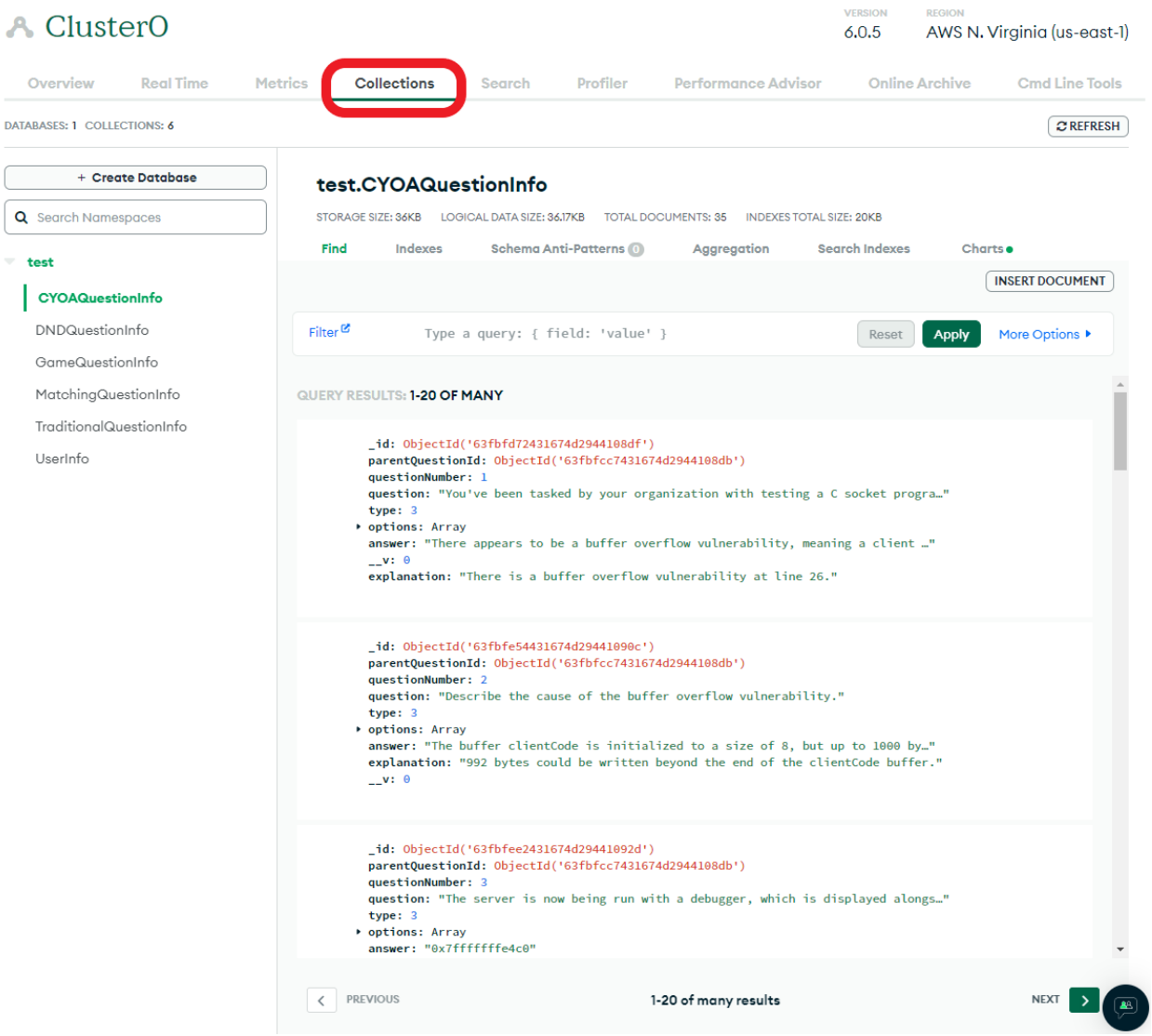
After you replace your *<PASSWORD>* with your database user account password, paste this command into the command line and hit enter to start the database import.



Check for Successful Import

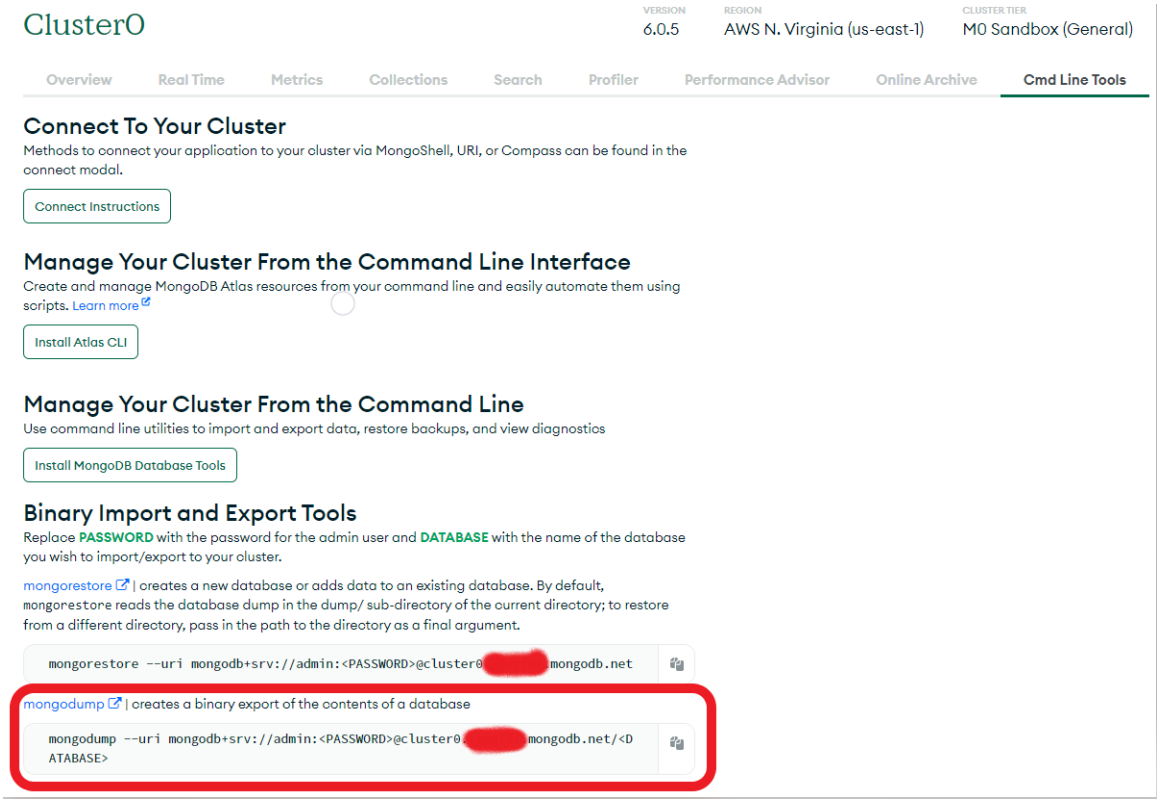
To check that the data was successfully imported, click on your cluster under *Database Deployments* and then navigate to the *Collections* tab.




ClusterO
VERSION
6.0.5
REGION
AWS N. Virginia (us-east-1)
Overview
Real Time
Metrics
Collections
Search
Profiler
Performance Advisor
Online Archive
Cmd Line Tools
DATABASES: 1 COLLECTIONS: 6
REFRESH
+ Create Database
Search Namespaces
test
CYOAQuestionInfo
DNDQuestionInfo
GameQuestionInfo
MatchingQuestionInfo
TraditionalQuestionInfo
UserInfo
test.CYOAQuestionInfo
STORAGE SIZE: 36KB
LOGICAL DATA SIZE: 36.17KB
TOTAL DOCUMENTS: 35
INDEXES TOTAL SIZE: 20KB
Find
Indexes
Schema Anti-Patterns
Aggregation
Search Indexes
Charts
INSERT DOCUMENT
Filter
Type a query: { field: 'value' }
Reset
Apply
More Options
QUERY RESULTS: 1-20 OF MANY
_id: ObjectId('63fbfd72431674d2944108df')
parentQuestionId: ObjectId('63fbfcc7431674d2944108db')
questionNumber: 1
question: "You've been tasked by your organization with testing a C socket progra…"
type: 3
options: Array
answer: "There appears to be a buffer overflow vulnerability, meaning a client …"
__v: 0
explanation: "There is a buffer overflow vulnerability at line 26."
_id: ObjectId('63fbfe54431674d29441090c')
parentQuestionId: ObjectId('63fbfcc7431674d2944108db')
questionNumber: 2
question: "Describe the cause of the buffer overflow vulnerability."
type: 3
options: Array
answer: "The buffer clientCode is initialized to a size of 8, but up to 1000 by…"
explanation: "992 bytes could be written beyond the end of the clientCode buffer."
__v: 0
_id: ObjectId('63fbfee2431674d29441092d')
parentQuestionId: ObjectId('63fbfcc7431674d2944108db')
questionNumber: 3
question: "The server is now being run with a debugger, which is displayed alongs…"
type: 3
options: Array
answer: "0x7fffffffe4c0"
PREVIOUS
1-20 of many results
NEXT

Exporting the Database

Similarly, to importing the database, to export the database navigate again to the *Binary Import and Export Tools* section on the *Cmd Line Tools* tab. For exporting the data replace the *<PASSWORD>* with your database user account password. Unlike the import command the export command requires the name of the database you wish to export. In the command, replace *<DATABASE>* with the name of the database you wish to export.



Opposite to the import command, the export command will create the *dump* directory (if necessary) in the command line's current working directory. The contents of the database will be placed in the newly created (or existing) *dump* directory.