

# ATLAS SEARCH WORKSHOP

## Set Up Instructions

### Overview

Giving your users the ability to find exactly what they are looking for in your application is critical for a fantastic user experience. Atlas Search makes that easier than ever. In this hands-on coding lab, we will use the \$search operator in the MongoDB aggregation pipeline in an application to build fine-grained searches across text, numerics, and geospatial data. Among the many topics we'll cover are:

- Fuzzy Matching
- Autocomplete
- Highlighting
- Facets
- Scoring

Before we can start with the lab, you will need first to set up a MongoDB database cluster in the cloud using MongoDB Atlas. This cluster is easy and free to set up. You don't even need to provide a credit card number. Best part? It is yours to keep forever.

This guide will guide you step-by-step how to create a free Atlas account, create your first database cluster, and download the sample dataset. It will also show you how to get that all important Connection String to the database, so you can CRUD from your applications, the CLI, and MongoDB Compass, our developer GUI. You can also find these instructions in the MongoDB [documentation](#).

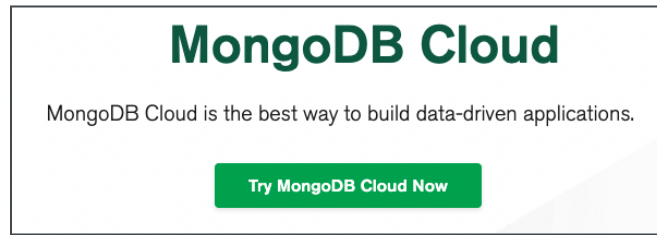
- Hands-on Tutorial
- Hands-on Tutorial
  - Spinning up an Atlas Cluster and Loading Data
- 

Step 1: Stand up infrastructure (MongoDB Atlas, MongoDB Compass)

### MongoDB Atlas (DBaaS)

Atlas is a service that provides fully managed MongoDB deployments. If you have an existing MongoDB Cloud account, feel free to use it for this tutorial. The instructions in this section are meant to walk you through the process, starting from scratch.

Navigate to [MongoDB Atlas](#) and select 'Try MongoDB Cloud Now', or click on 'Login' if you already have an account.

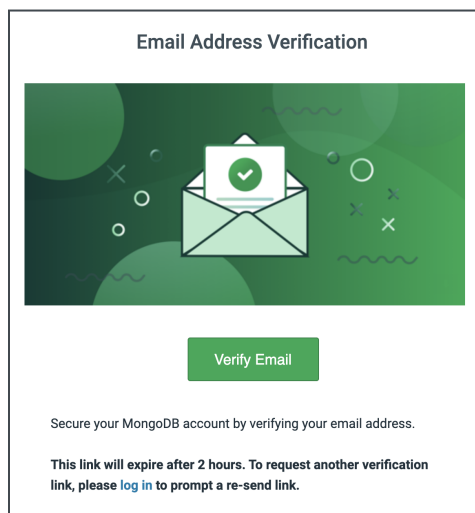


## Sign-Up Instructions

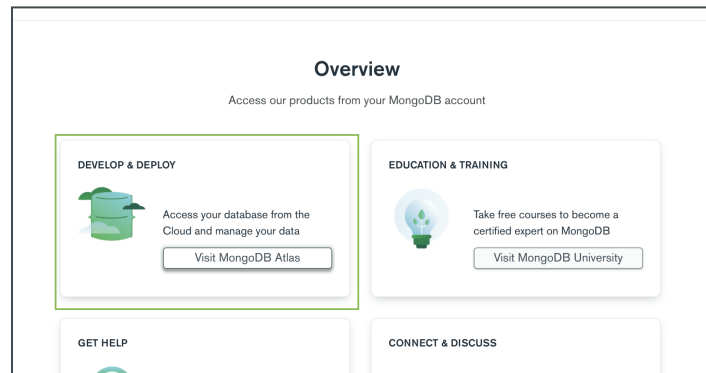
If you already have an Atlas account, skip this part and go to "Creating an Organization and Project". In order to sign-up, fill in your details as shown below and click on 'Get started free'. Alternatively, you can click on 'Sign up with Google' and use your Google account.

A sign-up form for MongoDB Cloud. At the top, it says "Get started free" and "No credit card required". Below this is a blue button with the Google logo and the text "Sign up with Google". A horizontal line with "or" in the center separates this from the text input fields. The fields are: "Your Company (optional)" with "MongoDB" entered; "Your Work Email" with "john.doe@mongodb.com" entered; "First Name" with "John" entered; "Last Name" with "Doe" entered; and "Password" with "\*\*\*\*\*" entered. Below the password field, there is a green checkmark icon and the text "8 characters minimum". Below that is a green checkmark icon and the text "I agree to the terms of service and privacy policy.". At the bottom is a green button with the text "Get started free". At the very bottom, in small text, it says "Already have an account? [Sign in.](#)".

You will then receive an email in your inbox. Navigate to the email and click on 'Verify Email'.



Once you're logged in, you should see the following options. Click on 'Visit MongoDB Atlas' under 'Develop and Deploy'.



## Creating an Organization and Project

Give your organization a name under the 'Name your Organization' field. Note that it can also be changed later.

Select 'MongoDB Atlas' from the two options under 'Select Cloud Service' and click on 'Next'.

A screenshot of the MongoDB "Create Organization" form. The form has a "Name and Service" tab and an "Add Members" button. A "Next" button is in the top right corner. The "Name Your Organization" section has a text input field containing "AtlasSearch". The "Select Cloud Service" section has two radio buttons: "MongoDB Atlas" (selected) and "Cloud Manager". Below this, there is a table with the heading "Features" and two columns. The first column is labeled "Automated database configuration" and has a green checkmark under "MongoDB Atlas". The second column has a green checkmark under "Cloud Manager".

You will be then asked to add members to your organization and set their permissions. You will be granted access with the role of 'Organization Owner' by default. Leave the default settings selected and click on 'Create Organization'.

← 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.

snehalbhatia@gmail.com (you) Organization Owner

Cancel ← Go Back Create Organization

You will then be navigated to the 'Projects' page for the Organization you just created. To create a project, click on 'New Project', on the top right corner of the screen.

ATLASSEARCH > PROJECTS  
**Projects**

Find a project... 🔍

Project Name Clusters Users Teams Alerts Actions

Give your project a name by typing it under the 'Name Your Project' field (however, remember that this cannot be changed later!) and click on 'Next'.

ATLASSEARCH > PROJECTS  
**Create a Project**

Name Your Project Add Members

**Name Your Project**

Project names have to be unique within the organization (and other restrictions).

Search-Tutorial

Cancel Next

You will then be navigated to the 'Add Members' tab for the project you just created. You will automatically be added as a member to this project with the permission of 'Project Owner'. Leave the default settings selected and click on 'Create Project'.

ATLASSEARCH > PROJECTS

## Create a Project

✓ Name Your Project > Add Members

### Add Members and Set Permissions

Invite new or existing users via email address...

Give your members access permissions below.

snehalbhatia8@gmail.com  
(you)

Project Owner


Cancel Go Back Create Project

## Deploying a Database Cluster

Once you are inside the project you just created, click on 'Build a Database'.

ATLASSEARCH > SEARCH-TUTORIAL

## Database Deployments



### Create a database

Choose your cloud provider, region, and specs.

Build a Database


Once your database is up and running, live migrate an existing MongoDB database into Atlas with our [Live Migration Service](#).

It should take you to the setup wizard. For this tutorial, we will choose the 'Shared' cluster type, which is the free tier of MongoDB Atlas. Once selected, click on 'Create'.

## Deploy a cloud database

Experience the best of MongoDB on AWS, Azure, and Google Cloud. Choose a deployment option to get started.

**PREVIEW**

 **Serverless**


For serverless applications that aren't critical with variable traffic. Minimal configuration required.

- ✓ Pay only for the operations you run
- ✓ Resources scale seamlessly to meet your workload
- ✓ Always-on security and backups

Create

Starting at  
**\$0.30/1M reads**

**ADVANCED**

 **Dedicated**


For production applications with sophisticated workload requirements. Advanced configuration controls.

- ✓ Network isolation and fine-grained access controls
- ✓ On-demand performance advice
- ✓ Multi-region and multi-cloud options available

Create

Starting at  
**\$0.08/hr\***  
\*estimated cost \$56.94/month

**FREE**

 **Shared**

For learning and exploring MongoDB in a cloud environment. Basic configuration options.

- ✓ No credit card required to start
- ✓ Explore with sample datasets
- ✓ Upgrade to dedicated clusters for full functionality

Create

Starting at  
**FREE**

This should then bring you to the setup wizard. Select the cloud provider and region of your choice, and leave the default settings for the rest. If you prefer, you can scroll all the way down and change the cluster name to your liking (remember, this cannot be changed later).

Then, click on 'Create Cluster'.

Cloud Provider & Region

AWS, Paris (eu-west-3) ▼

aws

Google Cloud

Azure

★ Recommended region ⓘ

🏷️ Paid tier region ⓘ

NORTH AMERICA	EUROPE	AUSTRALIA
🇺🇸 Oregon (us-west-2) ★	🇸🇪 Stockholm (eu-north-1) ★	🇦🇺 Sydney (ap-southeast-2) ★
🇺🇸 N. Virginia (us-east-1) ★	🇫🇷 Paris (eu-west-3) ★	🇮🇩 Jakarta (ap-southeast-3) ★
🇺🇸 Ohio (us-east-2) ★ 🏷️	🇮🇪 Ireland (eu-west-1) ★	🇰🇷 Seoul (ap-northeast-2)
🇺🇸 N. California (us-west-1) 🏷️	🇩🇪 Frankfurt (eu-central-1) ★	🇮🇳 Mumbai (ap-south-1)
🇨🇦 Montreal (ca-central-1) 🏷️	🇬🇧 London (eu-west-2) ★ 🏷️	🇸🇬 Singapore (ap-southeast-1) ★
SOUTH AMERICA	🇮🇹 Milan (eu-south-1) ★ 🏷️	🇭🇰 Hong Kong (ap-east-1) ★

Cluster Tier

M0 Sandbox (Shared RAM, 512 MB Storage) Encrypted ▲

Additional Settings

MongoDB 5.0, No Backup ▲

Cluster Name

Cluster0 ▲

FREE

Free forever! Your M0 cluster is ideal for experimenting in a limited sandbox. You can upgrade to a production cluster anytime.

Back

Create Cluster

You will then be navigated to the Security Quickstart wizard.

First, under “How would you like to authenticate your connection?”, select the ‘Username and Password’ option. Enter the Username and Password of your choice (remember to take a note of this!), and click on ‘Create User’.

ATLASSEARCH > SEARCH-TUTORIAL

Security Quickstart

To access data stored in Atlas, you'll need to create users and set up network security controls. [Learn more about security setup](#)

1 How would you like to authenticate your connection?

Your first user will have permission to read and write any data in your project.

Username and Password

Certificate

Create a database user using a username and password. Users will be given the *read and write to any database privilege* by default. You can update these permissions and/or create additional users later. Ensure these credentials are different to your MongoDB Cloud username and password.

Username

main\_user

Password ⓘ

mongo1234

🔍 Autogenerate Secure Password

📋 Copy

Create User

Once this is done, you can then proceed to setting up network access for your database cluster under "Where would you like to connect from?". Select the option 'My Local Environment' and click on 'Add my Current IP Address'.


For the purposes of this tutorial only, you may also add '0.0.0.0/0' under 'IP Address' to allow access to your database from anywhere (remember that this is just for simplicity and is not recommended for the database environments of your actual projects).

Once done, click on 'Finish and Close'.


2

Where would you like to connect from?

Enable access for any network(s) that need to read and write data to your cluster.



**My Local Environment**  
Use this to add network IP addresses to the IP Access List. This can be modified at any time.



**Cloud Environment**  
Use this to configure network access between Atlas and your cloud or on-premise environment. Specifically, set up IP Access Lists, Network Peering, and Private Endpoints.

ADVANCED

Add entries to your IP Access List

Only an IP address you add to your Access List will be able to connect to your project's clusters.

IP Address	Description		
<input type="text" value="Enter IP Address"/>	<input type="text" value="Enter description"/>	<input type="button" value="Add Entry"/>	<input type="button" value="Add My Current IP Address"/>

You should then see your Database Cluster being deployed. This should take around 3-5 minutes.

We are deploying your changes (current action: creating a plan)

ATLASSEARCH > SEARCH-TUTORIAL

Database Deployments

Cluster0

Connect

View Monitoring

Browse Collections

...

FREE

SHARED

R 0

W 0

Last 3 hours

100.0/s

Connections 0

Last 3 hours

100.0

In 0.0 B/s

Out 0.0 B/s

Last 3 hours

100.0 B/s

Data Size 0.0 B / 512.0 MB

(0%)

Last 3 hours

512.0 MB

Enhance Your Experience

For production throughput and richer metrics, upgrade to a dedicated cluster now!

VERSION	REGION	CLUSTER TIER	TYPE	BACKUPS	LINKED REALM APP	ATLAS SEARCH
5.0.6	AWS / Paris (eu-west-3)	M0 Sandbox (General)	Replica Set - 3 nodes	Inactive	None Linked	<a href="#">Create Index</a>



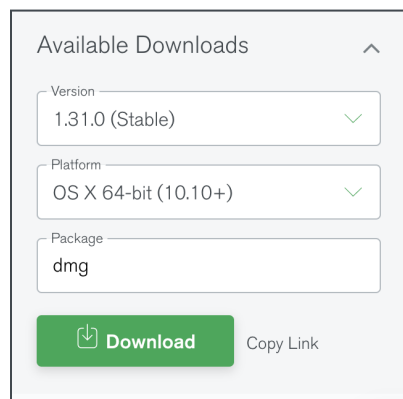
## Downloading MongoDB Compass: The GUI for MongoDB [Optional]

MongoDB Compass is a GUI tool which allows you to easily explore and manipulate your database. It is intuitive, flexible and provides features such as detailed schema visualizations, real-time performance metrics, sophisticated querying abilities, and much more.

The use of Compass is optional for this workshop, but it is recommended.

To get started, go to: [https://www.mongodb.com/try/download/compass?tck=docs\\_compass](https://www.mongodb.com/try/download/compass?tck=docs_compass)


Select the version and platform (OS) that corresponds to your system, and click on 'Download' (note that the website identifies your system specifications automatically, so you can leave the default options selected).

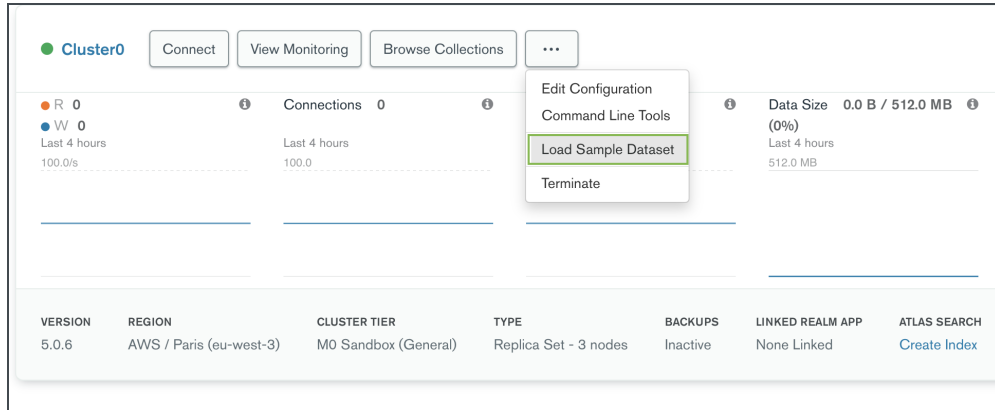
A screenshot of the 'Available Downloads' section from the MongoDB website. It features three dropdown menus: 'Version' set to '1.31.0 (Stable)', 'Platform' set to 'OS X 64-bit (10.10+)', and 'Package' set to 'dmg'. Each dropdown has a green checkmark on the right. Below the dropdowns is a green 'Download' button with a download icon and a 'Copy Link' text link.

Click on the downloaded file, and follow the setup wizard. For more details on downloading and installing Compass, visit our documentation:

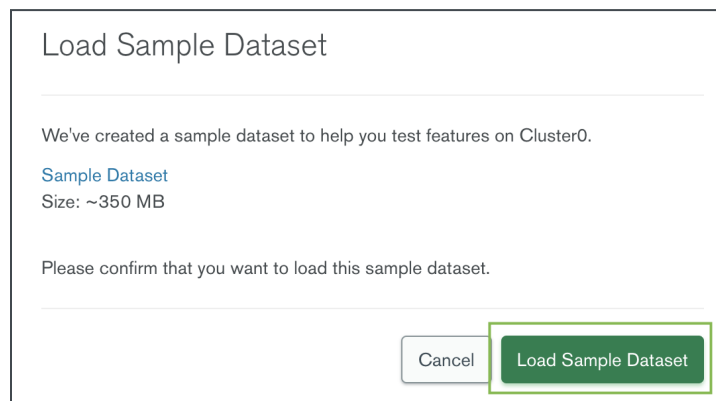
<https://www.mongodb.com/docs/compass/current/install/>.

## Step 2: Load Sample Data

Atlas has [sample data](#) that we're going to leverage for this workshop. Click the  button and select 'Load Sample Dataset' from the drop down:

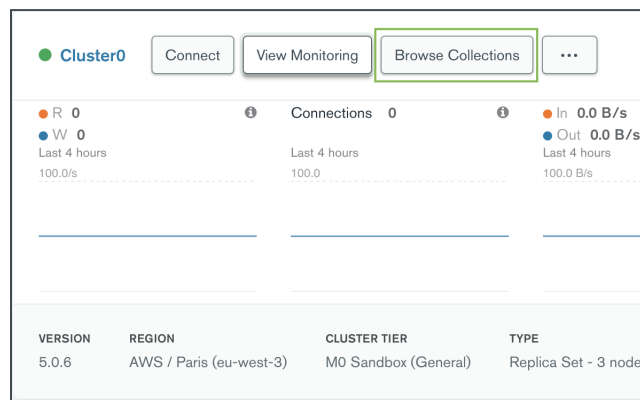


Click on the 'Load Sample Dataset' button when the pop-up window appears. It should take less than 5 minutes to load the dataset into your cluster.

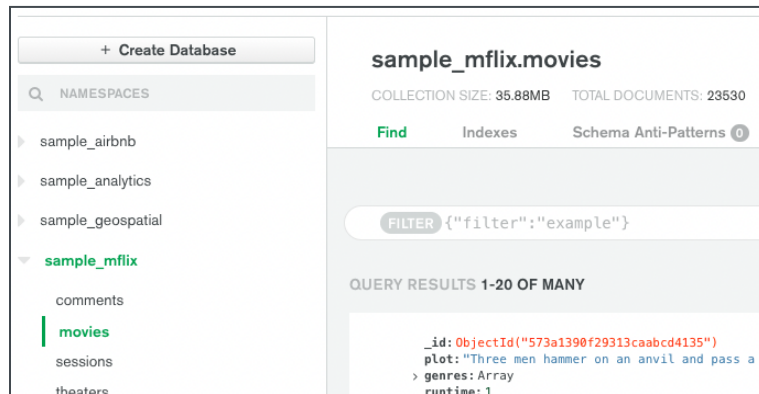


## Step 3: Review Movies Collection

Once the data is downloaded, let's have a look at the collections, which you can do by clicking on the 'Browse Collections' button:



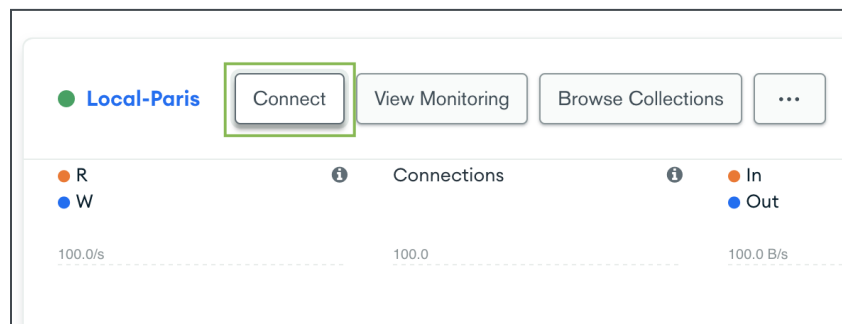
For this workshop, we will be using the 'movies' collection in the 'sample\_mflix' database. This collection has over 23,000 movies with a variety of text, date, and numeric fields that we can query against.



## Connecting to MongoDB Compass [Optional]

If you have MongoDB Compass downloaded, you can use it to explore and manipulate your data instead.

Before we can do that, we need to connect to Compass. Head over to your cluster and click on 'Connect'.



Select 'Connect using MongoDB Compass' from the list.

Connect to Local-Paris

✓ Setup connection security > Choose a connection method > Connect

Choose a connection method [View documentation](#)

Get your pre-formatted connection string by selecting your tool below.

**Connect with the MongoDB Shell**  
Interact with your cluster using MongoDB's interactive Javascript interface

>


**Connect your application**  
Connect your application to your cluster using MongoDB's native drivers

>

**Connect using MongoDB Compass**  
Explore, modify, and visualize your data with MongoDB's GUI

>

Go Back Close

Select 'I have MongoDB Compass', and click on the  icon in step 2. Make sure to replace <username> and <password> in the connection string with the username and password that you had set up while configuring User Security.

Connect to Local-Paris

✓ Setup connection security > ✓ Choose a connection method > Connect

I do not have MongoDB Compass I have MongoDB Compass

1 Choose your version of Compass:

1.12 or later

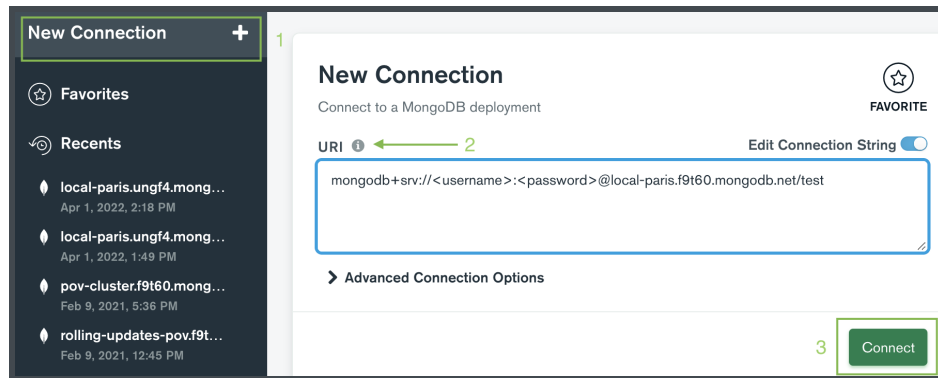
See your Compass version in "About Compass"

2 Copy the connection string, then open MongoDB Compass.

mongodb+srv://<username>:<password>@local-paris.f9t60.mongodb.net/test

You will be prompted for the password for the <username> user's (Database User) username.  
When entering your password, make sure that any special characters are [URL encoded](#).

Then, open MongoDB Compass, and click on 'New Connection'. Paste your connection string in the 'URI' field and click on 'Connect'.



Once connected, you should be able to see your databases and collections, and start exploring them.

For additional information on MongoDB Compass and how to best leverage it, refer to the MongoDB Documentation: <https://www.mongodb.com/docs/compass/current/>