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Getting Started with MongoDB

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مهارات المستقبل

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MongoDB as a Service

- You can host your web app on the cloud instead of on your own dedicated server
- You can also use a database hosted by a cloud service provider, rather than setting up and maintaining your own database server

Key benefits:

1. Cheaper than having your own database server
2. The cloud service provider deals with the configuration, backup, maintenance, security, etc.
3. Quick and easy

MongoDB as a Service

- We will be using MongoDB's Database as a service solution: Atlas

1. Download and install MongoDB on your local machine so that you can use mongo, the administrative shell,
2. Use Atlas to create and host a MongoDB on the cloud and
3. Use Mongo to access and manipulate your database cluster on Atlas.

Install MongoDB

1. Download it from MongoDB's download center
2. Follow the installation instructions
3. Add the mongo executable to PATH, so the commands are accessible from outside the MongoDB bin folder
4. Check that the Mongo shell has been correctly installed by typing mongo --version in your command line interface

Setup MongoDB Atlas

1. Go here and enter your information
2. You will be taken to the “Create New Cluster” page
3. Under Cloud provider & Region, select “aws” and any “free tier region”
4. Under “Cluster Tier” select the free M0 option
5. You can rename your cluster under “Cluster Name”.
6. Click on the “Create Cluster” button at the bottom of the page to create your cluster.

Setup MongoDB Atlas

Security settings:

- IPs that are allowed to access your cluster are listed under the “Security” tab in the “IP Whitelist”

1. Click on the “Security” tab and select “IP Whitelist” from the menu, then click on the “+ Add IP Address” button
2. In the “Add Whitelist Entry” popup window, click on the “Allow Access From Anywhere” button and then click “Confirm”

Setup MongoDB Atlas

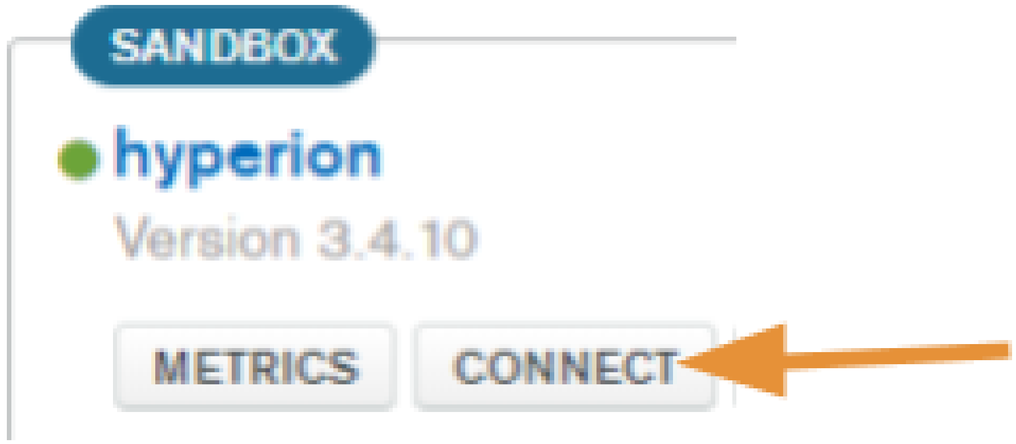
Manage users and teams:

- You have to manage who is able to access your database and what they can do with your database
- Select “Users and teams” and then click on the “Add users and teams” button.
- Invite your mentor to be a user of your database by entering their email address

Access the Database on the Cloud using the Mongo Shell

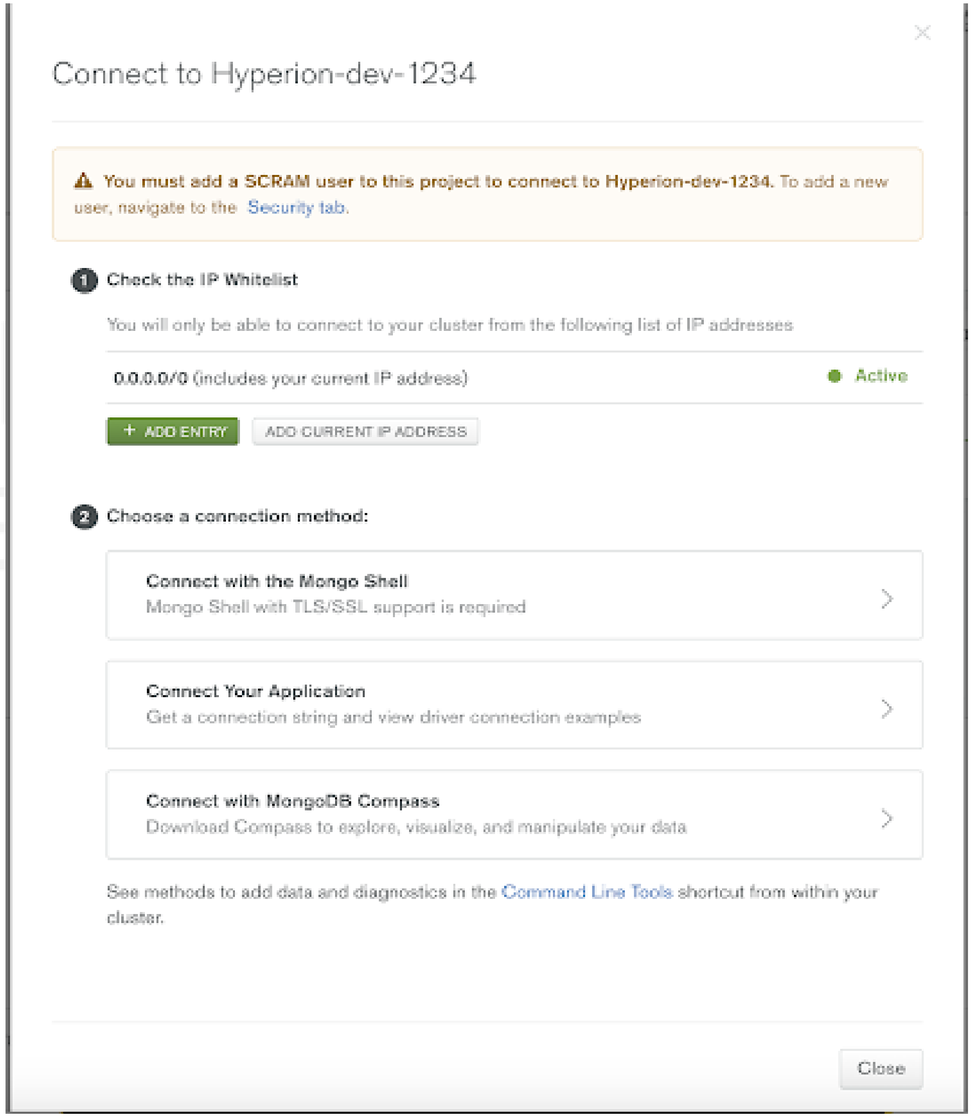
Remember: Mongo is the administrative shell used to run instructions on your MongoDB server.

Select “Connect” to find the connection string.



Access the Database on the Cloud using the Mongo Shell

- The following popup window will appear
- Select “Connect with the Mongo Shell”
- Then, select “I am using shell 3.6 or later”, and copy-paste the connection string that appears there into your command line interface



Create a Database

- Type the following using the mongo shell: use test where test is the name of the database. If the database does not already exist, this instruction will create it
- MongoDB Compass: allows you to interface with your database
- Quit Mongo: type quit() into the mongo shell

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Database Interaction

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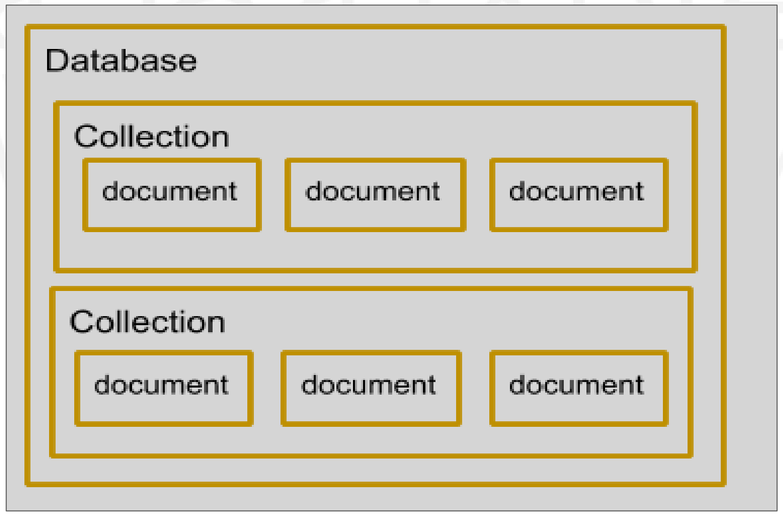
Mongo Shell Basic Commands

- `show dbs;`
- `use db_name;`
- `show collections;`



- `db.dropDatabase();`

CRUD Operations

Create:

```
{
  name: "sue",                          <-- field: value
  age: 26,                              <-- field: value
  status: "A",                          <-- field: value
  groups: [ "news", "sports" ]          <-- field: value
}
```

Image source: https://docs.mongodb.com/manual/core/document/

db.people.insertOne({name: 'Sue', age: 33});

or

db.people.insertMany([{name: 'Sue', age: 33}, {name: 'Sam', surname: 'Deans', age: 25}]);

collection document do

CRUD Operations

Read:

```
db.people.find().pretty();

Or

db.people.find({name: 'Tom'});

Or

db.people.find({name: 'Sue'}, {_id: false, age:true})
```

collection

CRUD Operations

Update:

```
db.people.update({name: ‘Sue’}, {age: 34, name: ‘Sue’})
```

Or

```
db.people.update({name: ‘Sue’}, {$set: {age: 34}})
```

Or

```
db.people.update({name: ‘Sue’},  {$set: {name: ‘Susan’}}, {multi: true})
```

CRUD Operations

Delete:

```
db.people.remove();
```

Or

```
db.people.remove({name: ‘Sue’})
```

Or

```
db.people.remove({name: ‘Sue’’}, true)
```