



NANYANG
TECHNOLOGICAL
UNIVERSITY
SINGAPORE

NTU Academy for Professional
and Continuing Education

(SCTP) Advanced Professional Certificate

Data Science and AI



Introduction



- MongoDB is a document-oriented NoSQL database. It stores data in JSON-like documents with dynamic schemas, making the integration of data in certain types of applications easier and faster.
- We will be connecting to a MongoDB cluster hosted on MongoDB Atlas, cloud database service that allows you to host MongoDB databases on the cloud.
- Setup a free tier account on MongoDB (<https://www.mongodb.com/>)
- Note the cluster URL and DB username + password credentials

1: Create a free Cluster

Choose **free** cluster and
'Create Deployment'

Deploy your cluster

Use a template below or set up advanced configuration options. You can also edit these configuration options once the cluster is created.

<input type="radio"/> M10	\$0.09/hour	
Dedicated cluster for development environments and low-traffic applications.		
STORAGE	RAM	vCPU
10 GB	2 GB	2 vCPUs

<input type="radio"/> Flex	From \$0.011/hour	
Up to \$30/month		
For application development and testing, with on-demand burst capacity for unpredictable traffic.		
STORAGE	RAM	vCPU
5 GB	Shared	Shared

<input checked="" type="radio"/> Free		
For learning and exploring MongoDB in a cloud environment.		
STORAGE	RAM	vCPU
512 MB	Shared	Shared

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

Configurations

Name
You cannot change the name once the cluster is created.

Provider
 AWS  Google Cloud  Azure

Region
 Singapore (ap-southeast-1) ★
★ Recommended Low carbon emissions

Tag (optional)
Create your first tag to categorize and label your resources; more tags can be added later. [Learn more.](#)
 :

Quick setup

Automate security setup (i)

Preload sample dataset (i)

I'll do this later Go to Advanced Configuration **Create Deployment**

2: Create Database User



Note down your **DB username** and **DB password**, as you will need it later



This is different from your login username and password.

Connect to Cluster0

1 Set up connection security 2 Choose a connection method 3 Connect

You need to secure your MongoDB Atlas cluster before you can use it. Set which users and IP addresses can access your cluster now. [Read more](#)

1. Add a connection IP address

Your current IP address [210.10.77.29] has been added to enable local connectivity. Only an IP address you add to your Access List will be able to connect to your project's clusters. Add more later in [Network Access](#).

2. Create a database user

This first user will have [atlasAdmin](#) permissions for this project.

We autogenerated a username and password. You can use this or create your own.

i You'll need your database user's credentials in the next step. Copy the database user password.

Username: dsaingyb_db_user Password: Itz5pmLoXEi4ZxI3

Create Database User

Close Choose a connection method

3: Setup Drivers

Click 'Drivers' to see how to access using Python

Connect to Cluster0



Set up connection security



Choose a connection method



Connect

Connect to your application



Drivers

Access your Atlas data using MongoDB's native drivers (e.g. Node.js, Go, etc.)



Access your data through tools



Compass

Explore, modify, and visualize your data with MongoDB's GUI



Shell

Quickly add & update data using MongoDB's Javascript command-line interface



MongoDB for VS Code

Work with your data in MongoDB directly from your VS Code environment



Atlas SQL

Easily connect SQL tools to Atlas for data analysis and visualization



Go Back

Close

Step 4: Setup Python Code

Copy and paste the code into your Jupyter notebook.

Don't forget to type in your password!

Connecting with MongoDB Driver

1. Select your driver and version

We recommend installing and using the latest driver version.

Driver Version

Python 4.7 or later

2. Install your driver

Run the following on the command line

Note: Use appropriate Python 3 executable

python -m pip install "pymongo[srv]"

[View MongoDB Python Driver installation instructions](#)

Copy and paste the below blocks into a cell in your Jupyter Notebook

3. Add your connection string into your application code

Use this connection string in your application

View full code sample

```
from pymongo.mongo_client import MongoClient
from pymongo.server_api import ServerApi

uri = "mongodb+srv://ngybin:<db_password>@cluster0.pelawcl.mongodb.net/?retryWrites=true&w=majority"

# Create a new client and connect to the server
client = MongoClient(uri, server_api=ServerApi('1'))

# Send a ping to confirm a successful connection
try:
    client.admin.command('ping')
    print("Pinged your deployment. You successfully connected to MongoDB!")
except Exception as e:
    print(e)
```

Replace <db_password> with the password for the **ngybin** database user. Ensure any option params are URL encoded.

RESOURCES

[Get started with the Python Driver](#)

[Access your Database Users](#)

[Python Starter Sample App](#)

[Troubleshoot Connections](#)

Please note

[Go Back](#)

[Done](#)