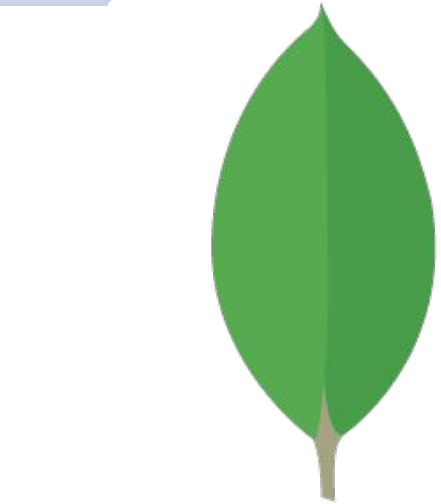
MongoDB Atlas Introduction

WHAT IS MONGODB ATLAS?

MongoDB Atlas is a fully-managed NoSQL cloud database that stores data in flexible, JSON-like documents.

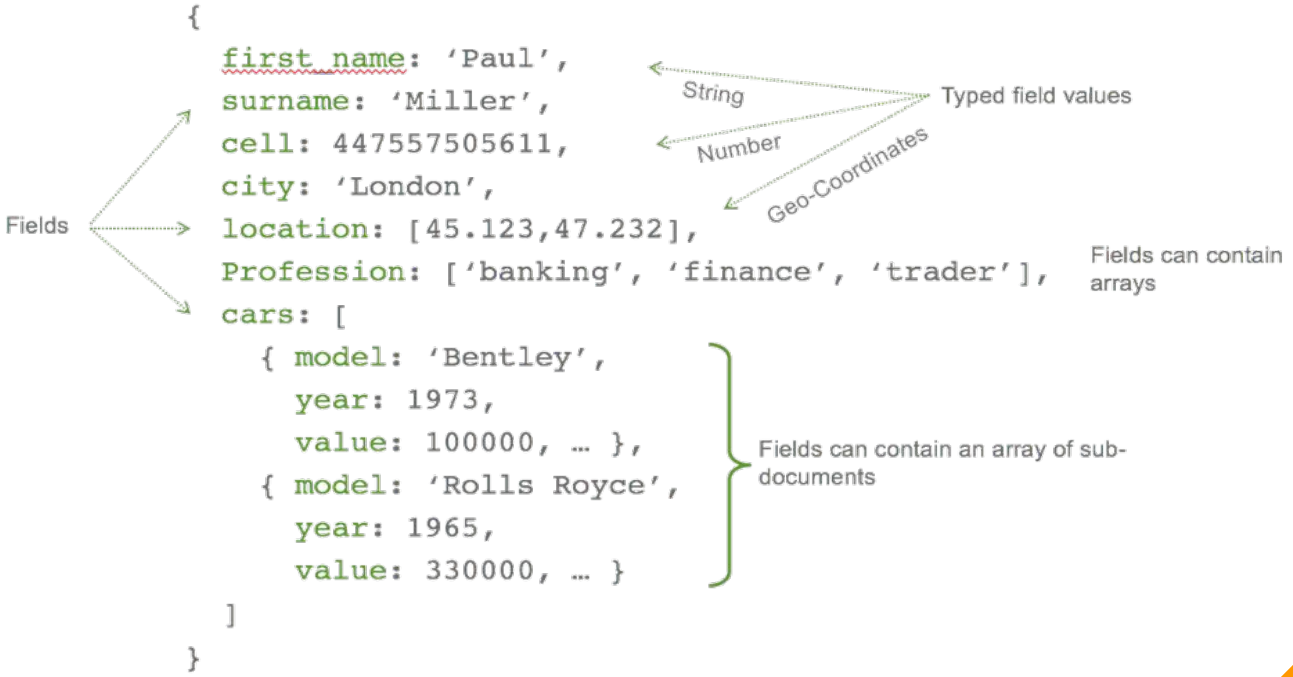


mongoDB

WHY USE NOSQL?

- Able to store unstructured data more easily
- Utilizes cloud computing and storage
- Speeds up development through simplicity
- Offers more scalability than SQL databases

JSON DOCUMENT EXAMPLE



TRY IT OUT

This tutorial will provide instructions on using MongoDB with Python.

REQUIREMENTS

Python 3.6+

Please ensure that you have a working release of Python 3.6 or above. The downloads can be found in this link: https://www.python.org/downloads/

PyMongo

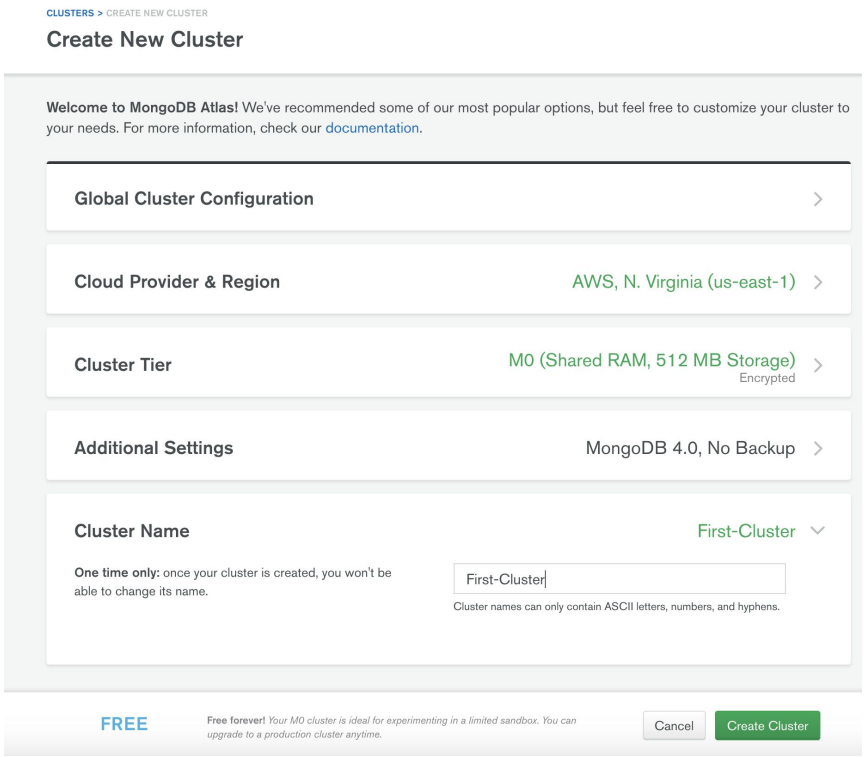
Please setup PyMongo using your preferred method. The methods can be found at https://pypi.org/project/pymongo/ and the GitHub https://github.com/mongodb/mongo-python-driver

> Please note that the “pip install pymongo” method may not be compatible with Anaconda and Spyder. In this case, download the source code from the GitHub and run “python setup.py install.”

GETTING STARTED

1. Create an account at https://www.mongodb.com/download-center
2. Build a cluster for “Learning MongoDB”
3. Select an availability zone that has a free tier available
4. Ensure the cluster tier is M0
5. Choose a name for your cluster

EXAMPLE CLUSTER INFO



SETTING UP THE CLUSTER

After creating the cluster, there are a couple more settings to complete before connecting. These should be shown in the bottom left corner of the cluster page in the “Get Started” button.

1. Create a user with a username and password with read and write privileges in the “Security” tab
2. Click “IP Whitelist” and add your current IP address to the list
3. Go to your “Clusters” and click “Connect” and “Connect to your Application”
4. Select “Python” for the driver and “3.6 or later” as the version
5. Copy the connection string

CONNECTING WITH PYTHON

Once your cluster is running and PyMongo is successfully installed, you are ready to connect to your database.

Create a Python file. Then, follow the image on the next slide to connect to your cluster, insert a document, and retrieve the document.

INTRODUCTORY CODE

```python
from pymongo import MongoClient
import ssl

# Insert your connection string here and replace "<password>" with your user's password
mongo_url = "YOUR STRING HERE"
client = MongoClient(mongo_url, ssl_cert_reqs=ssl.CERT_NONE)

# Gets a database called "test-database"
db = client['test-database']

# Gets a collection called "test-collection"
col = db['test-collection']

# The collection and database will be created after the first document is inserted into them.
# Let's insert a document of a car into the collection

document = {
    "model": "Rolls Royce",
    "year": 1965,
    "value": 33000,
}

col.insert_one(document)

print(col.find_one())
```

RESULTS

After successfully running the previous code, the printed output should be the car document that we inserted into the collection.

You can verify that the document was inserted by going to the “Clusters” tab of MongoDB Atlas and clicking “Collections” to see the sample documents in the collection.

NOW WHAT?

Now that you have connected to MongoDB Atlas, you can try out the other commands that PyMongo provides! There are other operations such as “DeleteOne,” “ReplaceOne,” and “Find” that are convenient for editing your collection.

The documentation can be found here: https://api.mongodb.com/python/current/api/pymongo/collection.html

THANKS!

Any questions?