

Objectives

After completing this lab you will be able to:

- Access the MongoDB database from Python with the pymongo driver
- Perform basic operations such as selecting, inserting and listing using Python
- Create a Python program to run the MongoDB operations

Install pymongo

```
theia@theiadocker-rajendraabro:/home/project$ python3 -m pip install pymongo
```

```
Defaulting to user installation because normal site-packages is not writeable
```

```
Collecting pymongo
```

```
  Downloading
```

```
pymongo-4.15.5-cp310-cp310-manylinux2014_x86_64.manylinux_2_17_x86_64.manylinux_2_28_x86_64.whl (1.2 MB)
```

```
----- 1.2/1.2 MB 21.9 MB/s eta
```

```
0:00:00
```

```
Collecting dnspython<3.0.0,>=1.16.0
```

```
  Downloading dnspython-2.8.0-py3-none-any.whl (331 kB)
```

```
----- 331.1/331.1 KB 16.0 MB/s eta
```

```
0:00:00
```

```
Installing collected packages: dnspython, pymongo
```

```
Successfully installed dnspython-2.8.0 pymongo-4.15.5
```

Exercise 3 - Connect to mongodb server using Python

File save mongo_connect.py

```
from pymongo import MongoClient
```

```
user = 'root'
```

```
password = 'MjQwOTgtcnNhbm5h' # CHANGE THIS TO THE PASSWORD
```

```
host='mongo'
```

```
#create the connection url
```

```
connecturl = "mongodb://{user}:{password}@{host}:27017/?authSource=admin".format(user,password,host)
```

```
# connect to mongodb server
print("Connecting to mongodb server")
connection = MongoClient(connecturl)

# get database list
print("Getting list of databases")
dbs = connection.list_database_names()

# print the database names

for db in dbs:
    print(db)
print("Closing the connection to the mongodb server")

# close the server connecton
connection.close()
```

theia@theiadocker-rajendraabro:/home/project\$ python3 mongo_connect.py
Connecting to mongodb server
Getting list of databases
admin
config
local
training
Closing the connection to the mongodb server

Exercise 4 - Working with documents

Python program do the following tasks:

- connect to the mongodb server.
- select a database named **training**.
- select a collection named **python**.
- insert a sample document.
- query all the documents in the **training** database and **python** collection.
- close the connection to the server.

Open a new file named **mongo_query.py**.

Copy and paste the below code into **mongo_query.py**

```

from pymongo import MongoClient
user = 'root'
password = 'MjQwOTgtcnNhbm5h' # CHANGE THIS TO THE PASSWORD YOU NOTED IN
THE EARLIER EXCERCISE - 2
host='mongo'
#create the connection url
connecturl = "mongodb://{user}:{password}@{host}:27017/?authSource=admin".format(user,password,host)

# connect to mongodb server
print("Connecting to mongodb server")
connection = MongoClient(connecturl)

# select the 'training' database

db = connection.training

# select the 'python' collection

collection = db.python

# create a sample document

doc = {"lab":"Accessing mongodb using python", "Subject":"No SQL Databases"}

# insert a sample document

print("Inserting a document into collection.")
db.collection.insert_one(doc)

# query for all documents in 'training' database and 'python' collection

docs = db.collection.find()

print("Printing the documents in the collection.")

for document in docs:
    print(document)

# close the server connecton
print("Closing the connection.")
connection.close()

```

```
theia@theiadocker-rajendraabro:/home/project$ python3 mongo_query.py
Connecting to mongodb server
Inserting a document into collection.
Printing the documents in the collection.
{'_id': ObjectId('694d7b601dc3cbd785ea4fcd'), 'lab': 'Accessing mongodb using python',
'Subject': 'No SQL Databases'}
Closing the connection.
```