

[illegible]

<b>Name</b>	MongoDB: PyMongo
<b>URL</b>	<a href="https://www.attackdefense.com/challengedetails?cid=231">https://www.attackdefense.com/challengedetails?cid=231</a>
<b>Type</b>	Infrastructure Attacks: MongoDB

**Important Note:** This document illustrates all the important steps required to complete this lab. This is by no means a comprehensive step-by-step solution for this exercise. This is only provided as a reference to various commands needed to complete this exercise and for your further research on this topic. Also, note that the IP addresses and domain names might be different in your lab.

**Q1. List the names of database present on mongodb server? Specify “,” as separator.**

**Answer:** admin,binary,city,config,flag,local,users

**Commands:**

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
client.database_names()
```

**Python one-liner:**

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client.database_names()'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client.database_names()';'
[u'admin', u'binary', u'city', u'config', u'flag', u'local', u'users']
student@attackdefense:~$
```

**Q2. List the name of collection present inside database “binary”?**

**Answer:** complex

**Commands:**

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
client['binary'].collection_names()
```

### Python one-liner:

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["binary"].collection_names();'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["binary"].collection_names();'
[u'complex']
student@attackdefense:~$
```

### Q3. What is the value of flag document?

**Answer:** fl4g\_f0r\_pym0ng0

### Commands:

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
client["flag"].flag.find_one()
```

### Python one-liner:

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["flag"].flag.find_one();'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["flag"].flag.find_one();'
{'u'flag': u'fl4g_f0r_pym0ng0', u'_id': ObjectId('5be3caafb8ae6187a027bcaa')}
student@attackdefense:~$
```

### Q4. What is the value of complex number stored in collection “complex” in database “binary”?

**Answer:** 3+6j

### Commands:

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
import pickle
pickle.loads(client['binary'].complex.find_one()["bin-data"])
```

### Python one-liner:

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);import pickle;print pickle.loads(client["binary"].complex.find_one()["bin-data"]);'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["city"].city.find({"$and":[{"pop":{"$lt":1000}},{"state":"OH"}]}).count(True);'
75
student@attackdefense:~$
```

**Q5. What is the name of user who has email “non@lacusMaurisnon.edu” in current collection in user database?**

**Answer:** Lucy

**Commands:**

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
client['users'].current.find_one({"email":"non@lacusMaurisnon.edu"})
```

**Python one-liner:**

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["users"].current.find_one({"email":"non@lacusMaurisnon.edu"});'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["users"].current.find_one({"email":"non@lacusMaurisnon.edu"});'
{'u'phone': u'(313) 534-7690', u'join_date': u'24-12-2017', u'_id': ObjectId('5be3caafb8ae6187a027bb52'), u'user': u'Lucy', u'email': u'non@lacusMaurisnon.edu'}
student@attackdefense:~$
```

**Q6. How many users are present in banned collection in database user?**

**Answer:** 88

**Commands:**

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
client['users'].banned.find().count(True)
```

**Python one-liner:**

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["users"].banned.find().count(True);'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["users"].banned.find().count(True);'
88
student@attackdefense:~$
```

**Q7. How many cities are present in collection “city” in database “city” which have a population less than 1000 and belongs to the state “Ohio”?**

**Answer: 75**

**Commands:**

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
client['city'].city.find({'$and': [{'pop': {'$lt': 1000}}, {'state': 'OH'}]}).count(True)
```

**Python one-liner:**

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["city"].city.find({"$and":[{"pop":{"$lt":1000}},{"state":"OH"}]}).count(True);'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["city"].city.find({"$and":[{"pop":{"$lt":1000}},{"state":"OH"}]}).count(True);'
75
student@attackdefense:~$
```

**Q8. How many cities are present in collection “city” in database “city” which have a population greater than 15000 and belongs to the state “Ohio”?**

**Answer: 6525**

**Commands:**

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
client['city'].city.find({'$or': [{'pop': {'$gt': 15000}}, {'state': 'OH'}]}).count(True)
```

**Python one-liner:**

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["city"].city.find({"$or":[{"pop":{"$gt":15000}},{"state":"OH"}]}).count(True);'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["city"].city.find({"$or":[{"pop":{"$gt":15000}},{"state":"OH"}]}).count(True);'
6525
student@attackdefense:~$
```

**Q9. What is the name of the 7th user sorted alphabetically in current collection in database users?**



**Answer:** Anthony

**Commands:**

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
client['users'].current.find().sort("user",1)[7]
```

**Python one-liner:**

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["users"].current.find().sort("user",1)[7];'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print client["users"].current.find().sort("user",1)[7];'
{'u'phone': u'(749) 819-6563', u'join_date': u'15-07-2018', u'_id': ObjectId('5be3f4c38af60688137aeaa6'), u'user': u'Anthony', u'email': u'vitae@Crasdolor.net'}
student@attackdefense:~$
```

**Q10. What is the average population of state “MA” in collection city in database city (Up to 2 decimal places)?**

**Answer:** 12692.87

**Commands:**

```
from pymongo import MongoClient
client = MongoClient('localhost', 27017)
list(client['city'].city.aggregate([{"$match":{"state":"MA"}},{"$group":{"_id":"$state","avg":{"$avg":"$pop"}}}]))
```

**Python one-liner:**

```
python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print list(client["city"].city.aggregate([{"$match":{"state":"MA"}},{"$group":{"_id":"$state","avg":{"$avg":"$pop"}}}]))'
```

```
student@attackdefense:~$ python -c 'from pymongo import MongoClient;client = MongoClient("localhost", 27017);print list(client["city"].city.aggregate([{"$match":{"state":"MA"}},{"$group":{"_id":"$state","avg":{"$avg":"$pop"}}}]))'
[{u'_id': u'MA', u'avg': 12692.879746835442}]
student@attackdefense:~$
```



## References:

1. MongoDB (<https://www.mongodb.com/>)
2. pymongo (<https://api.mongodb.com/python/current/>)