

Executing Database Operations in Python: MongoDB, CouchDB, and Couchbase Setup Steps

MongoDB Python Code Execution Steps

Step 1: Install the pymongo Library

Execute the following command in the terminal or command prompt:

```
pip install pymongo
```

Step 2: Ensure MongoDB Server is Running

Verify that your MongoDB server is active and accessible.

Step 3: Connect to MongoDB Server and Create a Database

```
from pymongo import MongoClient
```

```
# Connect to MongoDB server
```

```
client = MongoClient('mongodb://localhost:27017/')
```

```
# Create a new database
```

```
(Or )
```

```
Option 2: Create the database directly on the MongoDB interface
```

Visit the MongoDB interface and create a new database with the name 'mydatabase'

MongoDB interface is typically accessible at <http://localhost:27017/>

Step 4: Run the Python Code

Run the MongoDB Python code into your script or Jupyter Notebook.

Execute the script.

Step 5: Review Output

The script may print the query result and performance metrics.

Couchbase Python Code Execution Steps

Step 1: Install the Couchbase Python SDK

Run the following command in the terminal or command prompt:

```
pip install couchbase
```

Step 2: Ensure Couchbase Server is Running

Confirm that your Couchbase server is running. I

Step 3: Connect to Couchbase Server and Create a Bucket

```
from couchbase.cluster import Cluster
```

```
from couchbase.cluster import PasswordAuthenticator
```

```
# Connect to Couchbase server
```

```
cluster = Cluster('couchbase://localhost')
```

```
# Set cluster credentials (if required)
```

```
authenticator = PasswordAuthenticator('username', 'password')
```

```
cluster.authenticate(authenticator)
```

```
# Create a new bucket
```

```
( or )
```

```
# Option 2: Create the bucket directly on the Couchbase interface
```

Visit the Couchbase web console at <http://localhost:8091/>

Navigate to the "Buckets" section and create a new bucket

Step 4: Run the Python Code

Run the Couchbase Python code into your script or Jupyter Notebook.
Execute the script.

Step 5: Review Output

The script may print the query result and performance metrics.

CouchDB Python Code Execution Steps

Step 1: Install CouchDB Python Library : pip install couchdb

Step 2: Start CouchDB Server: Ensure that the CouchDB server is running at the default address:
<http://localhost:5984/>.

Step 3: Create a Database:

```
db_name = 'mydatabase'
```

```
# Option 1: Create the database using Python
```

```
import couchdb
```

```
# Connect to CouchDB server
```

```
couch = couchdb.Server('http://localhost:5984/')
```

```
# Create a new database
```

```
db = couch.create(db_name)
```

```
(Or)
```

```
# Option 2: Create the database directly on the CouchDB interface
```

Visit CouchDB interface at http://localhost:5984/_utils/ # -> Go to the "Databases" section and create a new database .

Step 4: Run the Python Code

Run the CouchDB Python code into your script or Jupyter Notebook.
Execute the script.

Step 5: Review Output

The script may print the query result and performance metrics.