

WALCHAND INSTITUTE OF TECHNOLOGY, SOLAPUR  
INFORMATION TECHNOLOGY  
2021-22 SEMESTER –I  
**Advanced Database System**

Name: Alaikya S Yemul

Roll No: 62

**ASSIGNMENT NO: 13**

Title: Create an application having database in MongoDB.

**Program:**

Inserting data:

```
/*
 * To change this license header, choose License Headers in Project
Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package javaapplication2;

import com.mongodb.client.MongoCollection;
import com.mongodb.client.MongoDatabase;
import org.bson.Document;
import com.mongodb.MongoClient;
import com.mongodb.MongoCredential;
public class mongo_class {
    public static void main( String args[] ) {
        // Creating a Mongo client
        MongoClient mongo = new MongoClient( "localhost" , 27017 );
        // Creating Credentials
        MongoCredential credential;
        credential = MongoCredential.createCredential("sampleUser", "student",
            "password".toCharArray());
        System.out.println("Connected to the database successfully");
        // Accessing the database
        MongoDatabase database = mongo.getDatabase("student");
        /* Retrieving a collection*/
        MongoCollection<Document> collection =
database.getCollection("department");
        System.out.println("Collection department selected successfully");
        Document document = new Document("title", "MongoDB")
            .append("id", 1)
            .append("description", "department")
            .append("code", "IT")
            .append("name", "Information Technology");
        collection.insertOne(document);
        System.out.println("Document inserted successfully");
    } }
```

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Retrieving data:

```
/*
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 * and open the template in the editor.
 */
package javaapplication2;

/**
 *
 * @author Admin
 */
import com.mongodb.client.FindIterable;
import com.mongodb.client.MongoCollection;
import com.mongodb.client.MongoDatabase;
import java.util.Iterator;
import org.bson.Document;
import com.mongodb.MongoClient;
import com.mongodb.MongoCredential;
public class Retriveall {
    public static void main( String args[] ) {
        // Creating a Mongo client
        MongoClient mongo = new MongoClient( "localhost" , 27017 );
        // Creating Credentials
        MongoCredential credential;
        credential = MongoCredential.createCredential("sampleUser", "student",
            "password".toCharArray());
        System.out.println("Connected to the database successfully");
        // Accessing the database
        MongoDatabase database = mongo.getDatabase("student");
        // Retrieving a collection
        MongoCollection<Document> collection =
database.getCollection("department");
        System.out.println("Collection sampleCollection selected successfully");
        // Getting the iterable object
        FindIterable<Document> iterDoc = collection.find();
        int i = 1;
        // Getting the iterator
        Iterator it = iterDoc.iterator();
```

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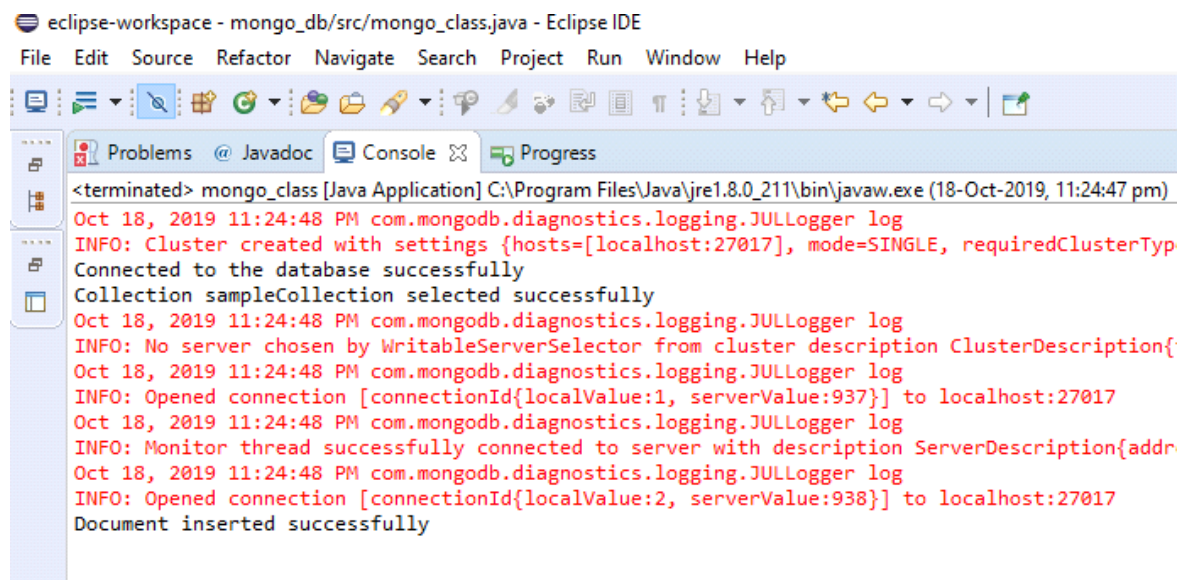
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```
while (it.hasNext()) {  
    System.out.println(it.next());  
    i++;  
}  
}
```

**Screenshots:**

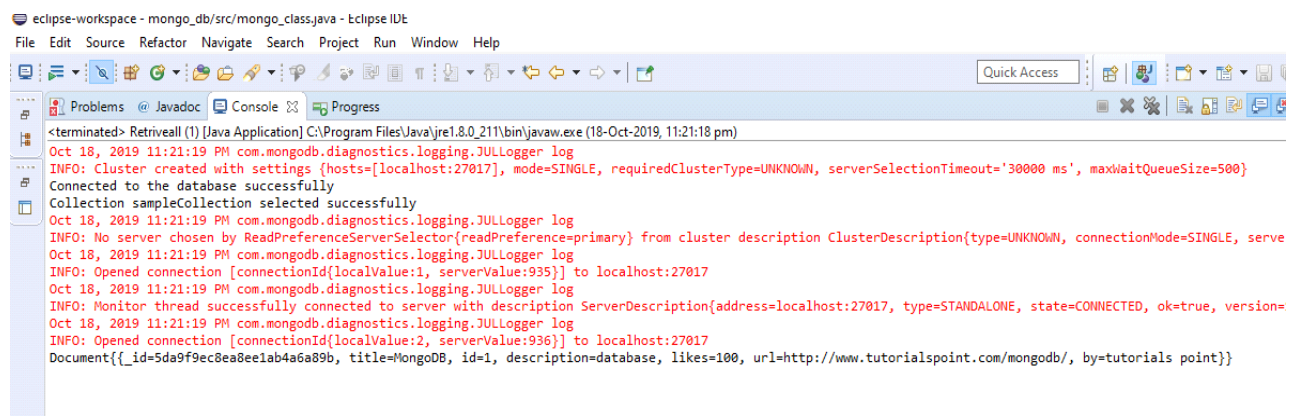
Inserting data:



The screenshot shows the Eclipse IDE interface with the console window open. The title bar indicates the workspace is 'eclipse-workspace - mongo\_db/src/mongo\_class.java - Eclipse IDE'. The console output shows the following logs:

```
<terminated> mongo_class [Java Application] C:\Program Files\Java\jre1.8.0_211\bin\javaw.exe (18-Oct-2019, 11:24:47 pm)  
Oct 18, 2019 11:24:48 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: Cluster created with settings {hosts=[localhost:27017], mode=SINGLE, requiredClusterType  
Connected to the database successfully  
Collection sampleCollection selected successfully  
Oct 18, 2019 11:24:48 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: No server chosen by WritableServerSelector from cluster description ClusterDescription{  
Oct 18, 2019 11:24:48 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: Opened connection [connectionId{localValue:1, serverValue:937}] to localhost:27017  
Oct 18, 2019 11:24:48 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: Monitor thread successfully connected to server with description ServerDescription{addr  
Oct 18, 2019 11:24:48 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: Opened connection [connectionId{localValue:2, serverValue:938}] to localhost:27017  
Document inserted successfully
```

Retrieving data:



The screenshot shows the Eclipse IDE interface with the console window open. The title bar indicates the workspace is 'eclipse-workspace - mongo\_db/src/mongo\_class.java - Eclipse IDE'. The console output shows the following logs:

```
<terminated> Retrieveall (1) [Java Application] C:\Program Files\Java\jre1.8.0_211\bin\javaw.exe (18-Oct-2019, 11:21:18 pm)  
Oct 18, 2019 11:21:19 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: Cluster created with settings {hosts=[localhost:27017], mode=SINGLE, requiredClusterType=UNKNOWN, serverSelectionTimeout='30000 ms', maxWaitQueueSize=500}  
Connected to the database successfully  
Collection sampleCollection selected successfully  
Oct 18, 2019 11:21:19 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: No server chosen by ReadPreferenceServerSelector{readPreference=primary} from cluster description ClusterDescription{type=UNKNOWN, connectionMode=SINGLE, serve  
Oct 18, 2019 11:21:19 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: Opened connection [connectionId{localValue:1, serverValue:935}] to localhost:27017  
Oct 18, 2019 11:21:19 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: Monitor thread successfully connected to server with description ServerDescription{address=localhost:27017, type=STANDALONE, state=CONNECTED, ok=true, version=  
Oct 18, 2019 11:21:19 PM com.mongodb.diagnostics.logging.JULLogger log  
INFO: Opened connection [connectionId{localValue:2, serverValue:936}] to localhost:27017  
Document[{_id=5da9f9ec8ea8ee1ab4a6a89b, title=MongoDB, id=1, description=database, likes=100, url=http://www.tutorialspoint.com/mongodb/, by=tutorials point}]
```

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MongoDB Database:

The screenshot displays the MongoDB Compass web interface. At the top, a browser tab is labeled 'student.department Documents'. The main header shows 'student.department' with statistics: 3 documents (366B total size, 122B avg size) and 1 index (36.9KB total size, 36.9KB avg size). Below the header, a navigation bar includes 'Documents', 'Aggregations', 'Schema', 'Explain Plan', 'Indexes', and 'Validation'. A filter bar contains a placeholder filter '{ field: 'value' }' and buttons for 'OPTIONS', 'FIND', 'RESET', and a refresh icon. Below the filter bar, a toolbar shows 'ADD DATA', 'VIEW' (with icons for grid, table, and code), and a status bar indicating 'Displaying documents 1 - 3 of 3' with navigation arrows and a 'REFRESH' button. The main content area displays three JSON documents:

```
{
  "_id": ObjectId("61d7275a9455f42888c9d68a"),
  "title": "MongoDB",
  "id": 1,
  "description": "department",
  "code": "IT",
  "name": "Information Technology"
}
```

```
{
  "_id": ObjectId("61d866739455f428f43c7658"),
  "title": "MongoDB",
  "id": 2,
  "description": "department",
  "code": "CSE",
  "name": "Computer Science Engineering"
}
```

```
{
  "_id": ObjectId("61dc08ddc476e207bc76d095"),
  "title": "MongoDB",
  "id": 3,
  "description": "department",
  "code": "ELN",
  "name": "Electronics"
}
```