



**Centurion**  
**UNIVERSITY**  
*Shaping Lives...  
Empowering Communities...*

# SCHOOL OF ENGINEERING AND TECHNOLOGY

## Record of Applied and Action Learning (Programming Practice)

**Subject Name:**

**Subject Code:**

**Semester:**

**Name:** \_\_\_\_\_

**Registration No.:** \_\_\_\_\_

**Program/Branch:** \_\_\_\_\_

**Specialization:** \_\_\_\_\_

**Academic Year:** \_\_\_\_\_

**Campus:** \_\_\_\_\_



Centurion  
UNIVERSITY  
*Shaping Lives...  
Empowering Communities...*

**CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT  
ODISHA**

***Certificate***

This is to certify that Mr./Ms. .... having  
Registration No. .... of ..... Semester,  
..... Program, .....  
School, ..... Campus has completed .....  
number of experiments in ..... Applied and Action  
Learning Laboratory and fulfils the.....course  
requirements.

***Signature of the HoD/Dean***

***Signature of the Faculty***

***Office Seal***

# INDEX

[illegible]



School: ..... Campus: .....  
Academic Year: ..... Subject Name: ..... Subject Code: .....  
Semester: ..... Program: ..... Branch: ..... Specialization: .....  
Date: .....

## Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiment : Installation and Practice over Non sql Database

### \* Coding Phase: Pseudo Code / Flow Chart / Algorithm

#### ➤ About the NoSql database:-

databases are a type of database that provide flexible and scalable ways to store and manage data, differing from traditional relational databases (RDBMS). They are designed to handle large volumes of unstructured, semi-structured, or structured data and are optimized for high availability, horizontal scaling, and fast read/write operations.

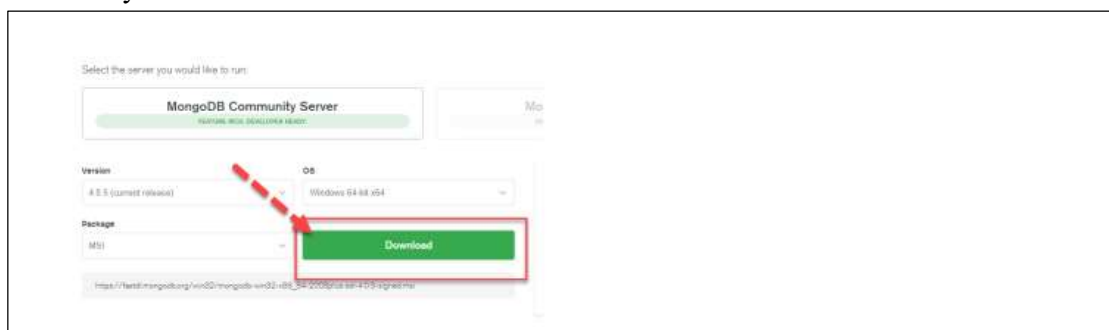
- now a days we are using lots of the NoSql database but here we are going to perform the all operation over the **MongoDB**:-

### Installation of the MongoDB

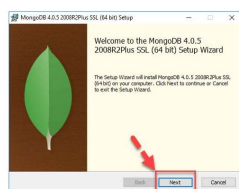
THESE ARE THE FOLLOWING STEPS ON WHICH THE MONGODB WILL BE INSTALLED

#### Download & Install MongoDB on Windows

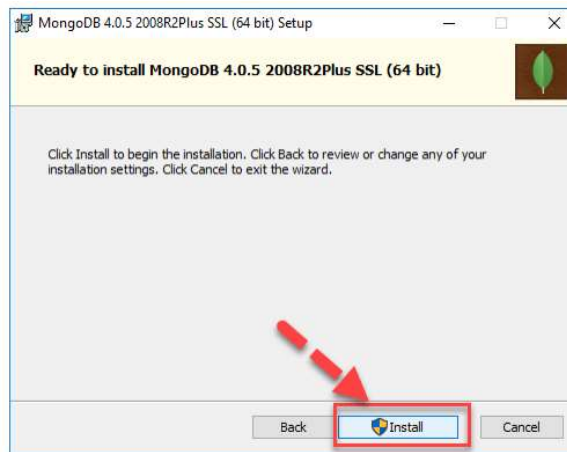
**Step 1)** Go to <https://www.mongodb.com/try/download/community> and Download MongoDB Community Server. We will install the 64-bit version for Windows.



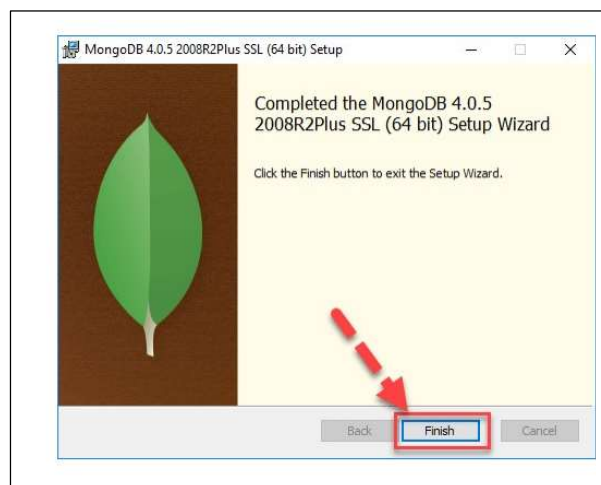
**Step 2)** Once download is complete open the msi file. Click Next in the start up screen



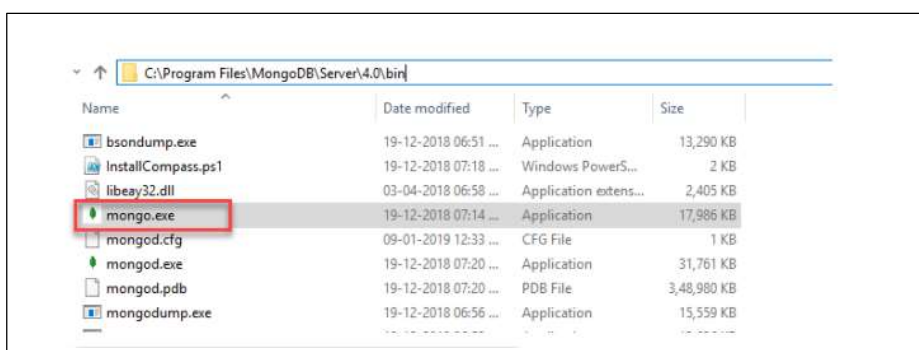
**Step 3)** Click on the Install button to start the installation.



**Step 4)** Click on the Finish button to complete the installation

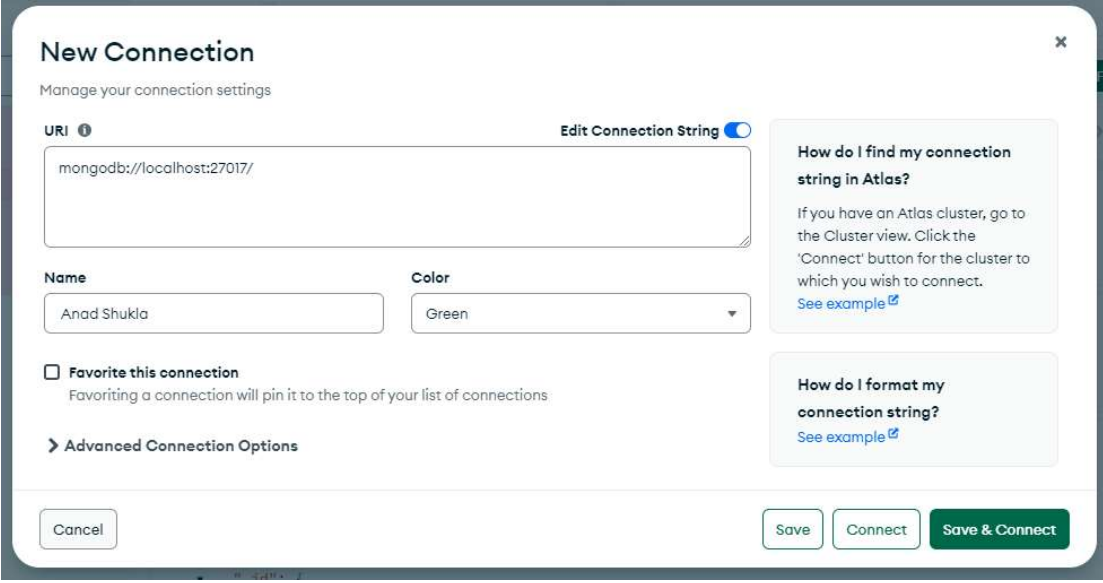


**Step 5)** Go to " C:\Program Files\MongoDB\Server\4.0\bin" and double click on mongo.exe Alternatively, you can also click on the MongoDB desktop item



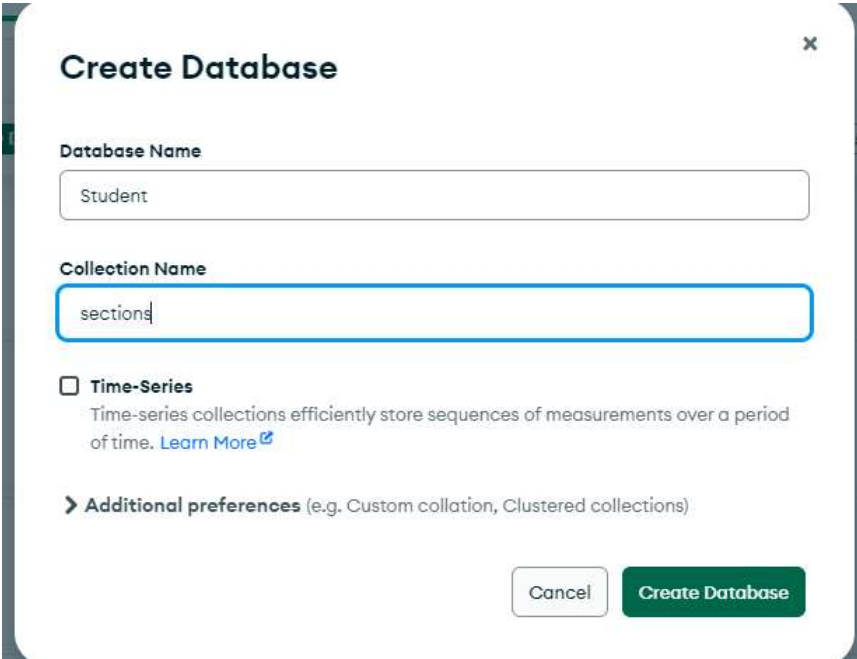
## \* Operation in MongoDB

Here We Will make the connection of the MongoDB to Compass for clear visualization

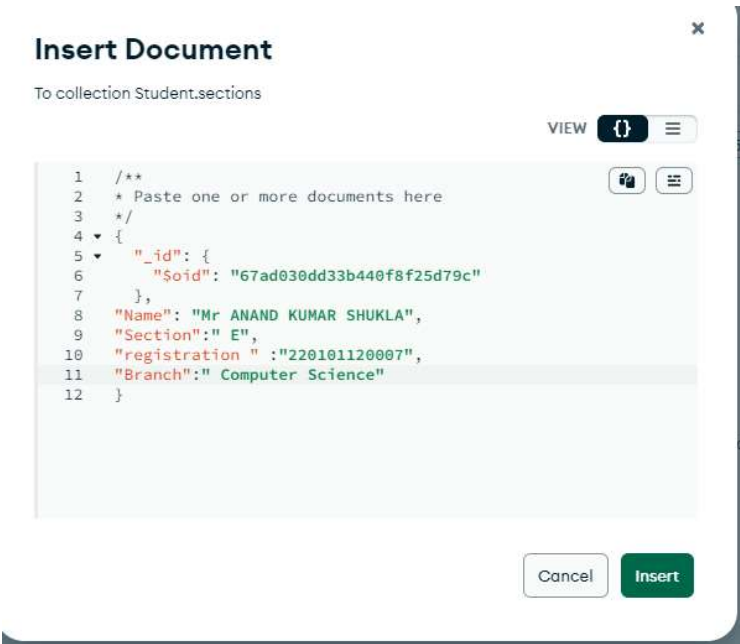


The screenshot shows the 'New Connection' dialog box in MongoDB Compass. The title is 'New Connection' with a close button (X) in the top right corner. Below the title is the subtitle 'Manage your connection settings'. The main form has two sections. The first section contains a 'URI' field with the value 'mongodb://localhost:27017/' and an 'Edit Connection String' toggle switch. The second section contains a 'Name' field with the value 'Anad Shukla' and a 'Color' dropdown menu set to 'Green'. Below these fields is a checkbox labeled 'Favorite this connection' with the text 'Favoriting a connection will pin it to the top of your list of connections'. At the bottom left is a 'Cancel' button. At the bottom right are three buttons: 'Save', 'Connect', and 'Save & Connect'. On the right side of the dialog, there are two informational boxes. The first box is titled 'How do I find my connection string in Atlas?' and contains text about finding the connection string in the Atlas cluster view, with a 'See example' link. The second box is titled 'How do I format my connection string?' and also contains a 'See example' link.

Then by Clicking on the + icon we will Create A new database



The screenshot shows the 'Create Database' dialog box in MongoDB Compass. The title is 'Create Database' with a close button (X) in the top right corner. The main form has two sections. The first section contains a 'Database Name' field with the value 'Student'. The second section contains a 'Collection Name' field with the value 'sections'. Below these fields is a checkbox labeled 'Time-Series' with the text 'Time-series collections efficiently store sequences of measurements over a period of time. Learn More'. At the bottom left is a 'Cancel' button. At the bottom right is a 'Create Database' button. Below the 'Time-Series' checkbox is a link to 'Additional preferences (e.g. Custom collation, Clustered collections)'.



By This Process we will Insert the Data in MongoDB

## \* Implementation Phase: Final Output (no error)

### Study of MongoDB and Implementation of CRUD Operations

#### *Introduction to MongoDB:*

MongoDB is a NoSQL database that stores data in a flexible, JSON-like format called **documents**. It is widely used for handling large amounts of data efficiently.

#### *Installation of MongoDB:*

1. Download MongoDB from the official website.
2. Install it and start the MongoDB server.
3. Use the MongoDB shell (`mongosh`) or GUI tools like **Compass** to interact with the database.

#### *CRUD Operations in MongoDB:*

##### 1. **Create (Insert Data)**

- Used to add new records (documents) in a collection.

```
db.students.insertOne({ name: "Anand Shukla", age: 20, course: "CSE" });
```

**1. Read (Retrieve Data)**

- Used to fetch data from the database.

```
js
CopyEdit
db.students.find();
```

**2. Update (Modify Data)**

- Used to change existing data in the database.

```
js
CopyEdit
db.students.updateOne({ name: "anand " }, { $set: { age: 23 } });
```

**3. Delete (Remove Data)**

- Used to delete records from the database.

```
js
CopyEdit
db.students.deleteOne({ name: "anad" });
```

*Conclusion:*

MongoDB is a powerful NoSQL database that provides fast and flexible data storage. CRUD operations allow us to insert, retrieve, update, and delete data easily.

**ASSESSMENT**

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
<b>Total</b>	<b>50</b>		

**Signature of the Student:**

Name :

Regn. No. :

**Signature of the Faculty:**

Page No.....

*\* As applicable according to the experiment.  
Two sheets per experiment (10-20) to be used.*



**ASSESSMENT**

Experiment	Full Mark	Marks Obtained
Experiment - 1	50	
Experiment - 2	50	
Experiment - 3	50	
Experiment - 4	50	
Experiment - 5	50	
Experiment - 6	50	
Experiment - 7	50	
Experiment - 8	50	
Experiment - 9	50	
Experiment - 10	50	
Experiment - 11	50	

Experiment	Full Mark	Marks Obtained
Experiment - 12	50	
Experiment - 13	50	
Experiment - 14	50	
Experiment - 15	50	
Experiment - 16	50	
Experiment - 17	50	
Experiment - 18	50	
Experiment - 19	50	
Experiment - 20	50	
<b>Average Total</b>	<b>50</b>	

**Date:** \_\_\_\_\_**Signature of the Faculty****\* LEARNING OUTCOMES:**

**How the Applied and Action Learning encourages Critical Thinking, Problem Solving, Idea Generation and Skill Development etc.?**

---

---

---

---

---

---

---

---

---

---

**How the Applied and Action Learning encourages Leadership, Team Work, Reflection and Decision Making Capability etc.?**

---

---

---

---

---

---

---

---

---

---

**Date:** \_\_\_\_\_**Signature of the Student**

## COURSE OUTCOMES (COs) ATTAINMENT

➤ **Expected Course Outcomes (COs):**

(Refer to COs Statement in the Syllabus)

---

---

---

---

---

---

---

---

➤ **Course Outcomes (COs) Attained:**

How would you rate your learning of the subject based on the specified COs?

<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>	<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>	<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>	<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>	<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>	<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>	<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>	<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>	<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>	<input style="width: 40px; height: 30px; border: 1px solid black;" type="text"/>
1	2	3	4	5	6	7	8	9	10
LOW								HIGH	

➤ **Learning Gap (If any):**

---

---

---

---

➤ **Books/Manuals Referred:**

---

---

---

**Date:** \_\_\_\_\_

**Signature of the Student**

➤ **Suggestions / Recommendations:**

(by the Course Faculty)

---

---

---

---

**Date:** \_\_\_\_\_

**Signature of the Faculty**



**Centurion**  
**UNIVERSITY**

*Shaping Lives...  
Empowering Communities...*

## **CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, ODISHA**

### **CAMPUSES:**

**Paralakhemundi Campus**

Village Alluri Nagar  
P.O. – R Sitapur, Via- Uppalada  
Paralakhemundi, Dist.- Gajapati  
Odisha, India. PIN- 761211

**Bhubaneswar Campus**

Ramchandrapur  
P.O. – Jatni, Bhubaneswar  
Dist.- Khurda, Odisha,  
India, PIN- 752050

**Balangir Campus**

Behind BSNL Office  
IDCO land, Rajib Nagar  
Dist.- Balangir, Odisha  
India, PIN-767001

**Rayagada Campus**

IDCO Industrial Area  
Pitamahar, Rayagada  
Dist.-Rayagada, Odisha  
India, PIN-765001

**Balasore Campus**

Gopalpur,  
P.O.-Balasore  
Dist.-Balasore, Odisha  
India, PIN-756044

**Chatrapur Campus**

Ramchandrapur,  
Kaliabali Chhak,  
P.O-Chatrapur, Dist.-Ganjam  
Odisha, India, PIN-761020

**Centurion University of Technology and Management, Odisha**

**CAMPUSES: Paralakhemundi | Bhubaneswar | Rayagada | Balangir | Balasore | Chatrapur**