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ROLL NO: 50

MCA Sem III – Div A
Big Data Analytics and Visualization
LabAssignmet: 3
MongoDB

Aim: To learn MongoDB and how it helps you to use new commands easily for managing and querying data more effectively.

Theory:

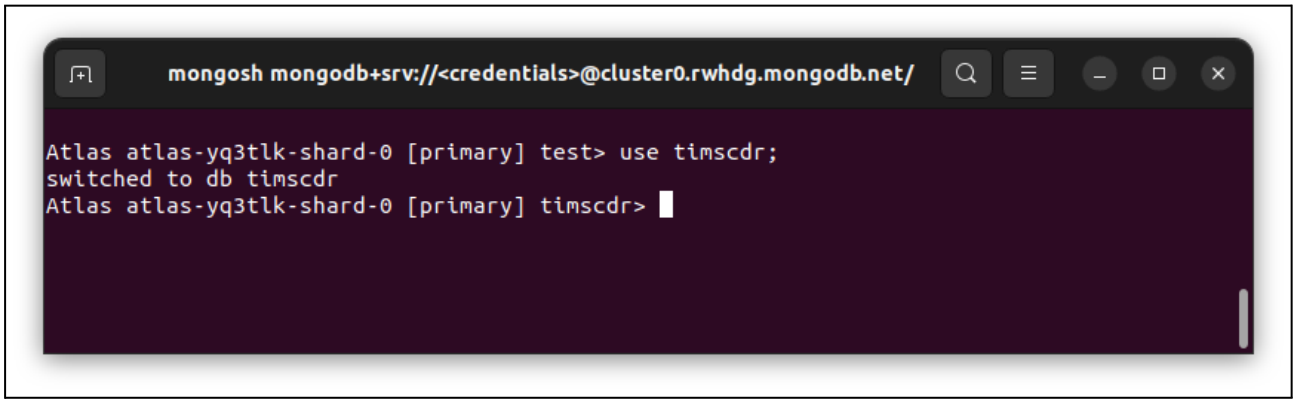
MongoDB is a NoSQL, open-source document-oriented database designed for ease of development and scaling. Unlike traditional relational databases that use tables and rows, MongoDB stores data in flexible, JSON-like documents called BSON (Binary JSON).

Features:

Document-Oriented Storage: Stores data in flexible, JSON-like documents (BSON).
Schema Flexibility: Allows dynamic schema changes without downtime.
Horizontal Scalability: Distributes data across multiple servers using sharding.
High Performance: Provides fast read and write operations with in-memory processing.
Rich Query Language: Supports complex queries, indexing, and aggregation.

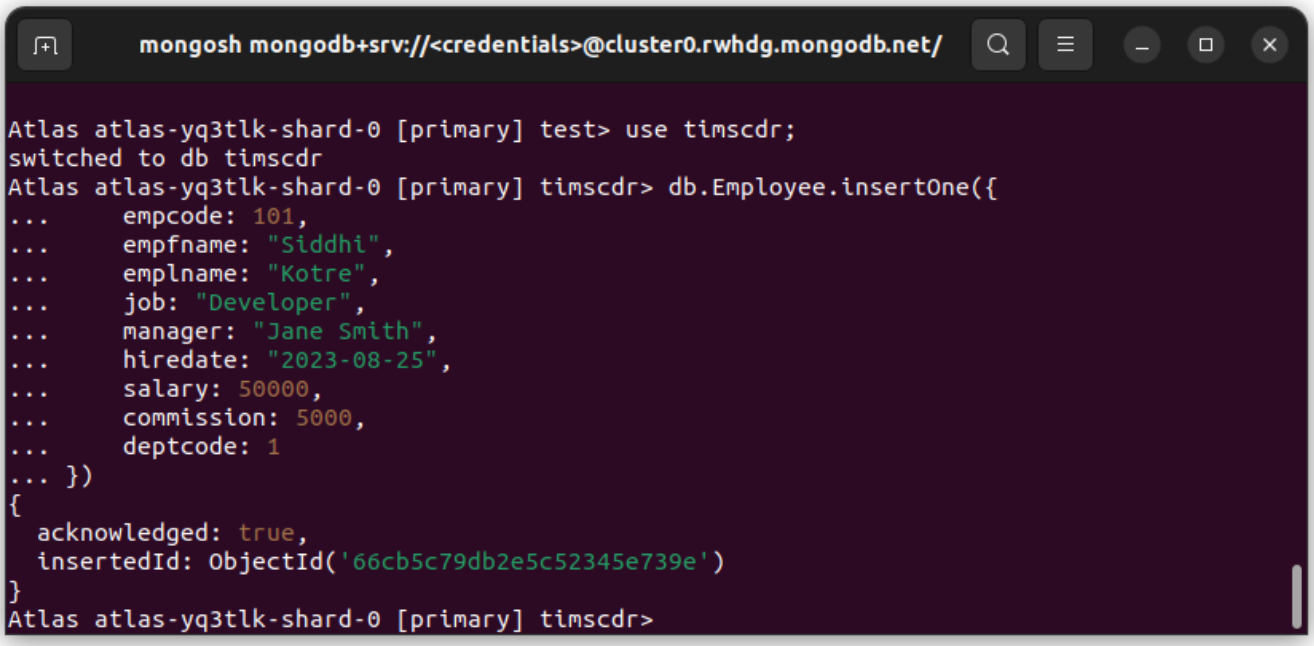
Output:

1. Create a Database with the name College using the MongoDB command prompt.

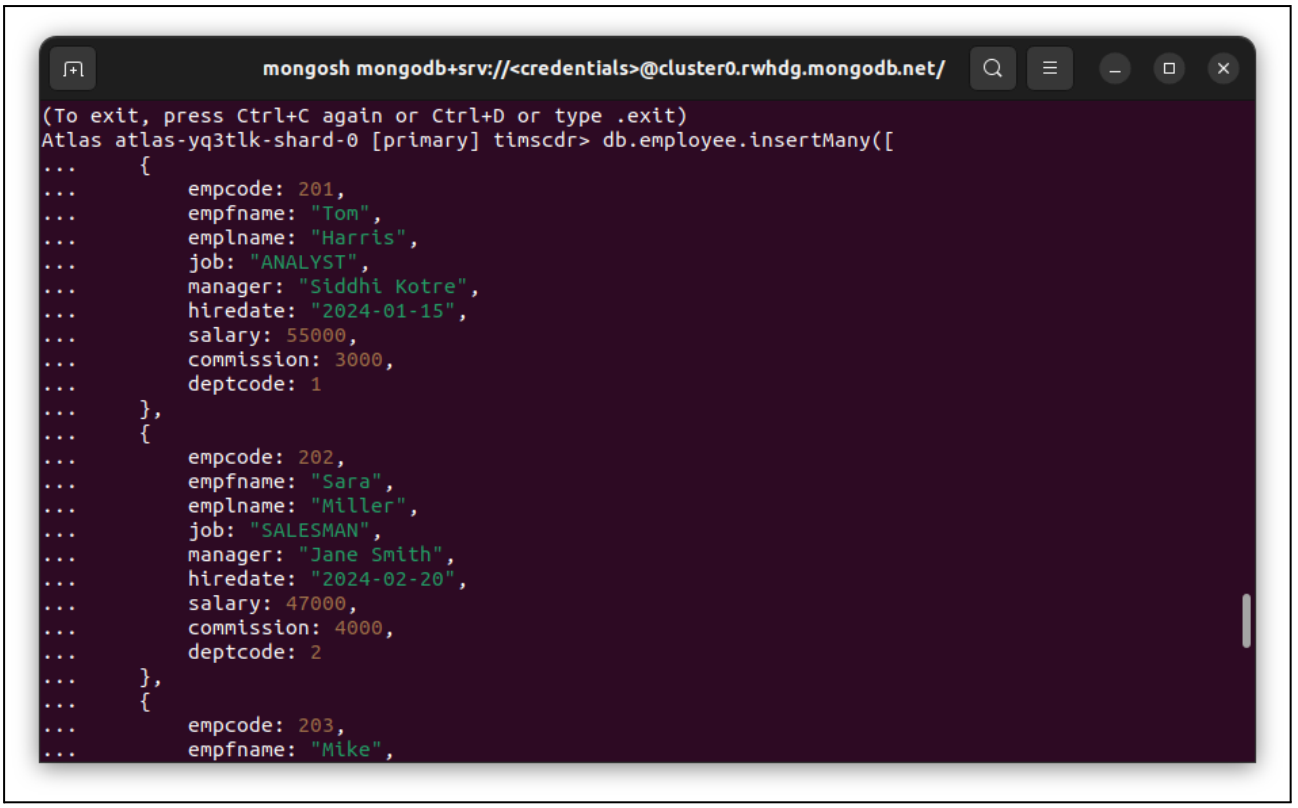


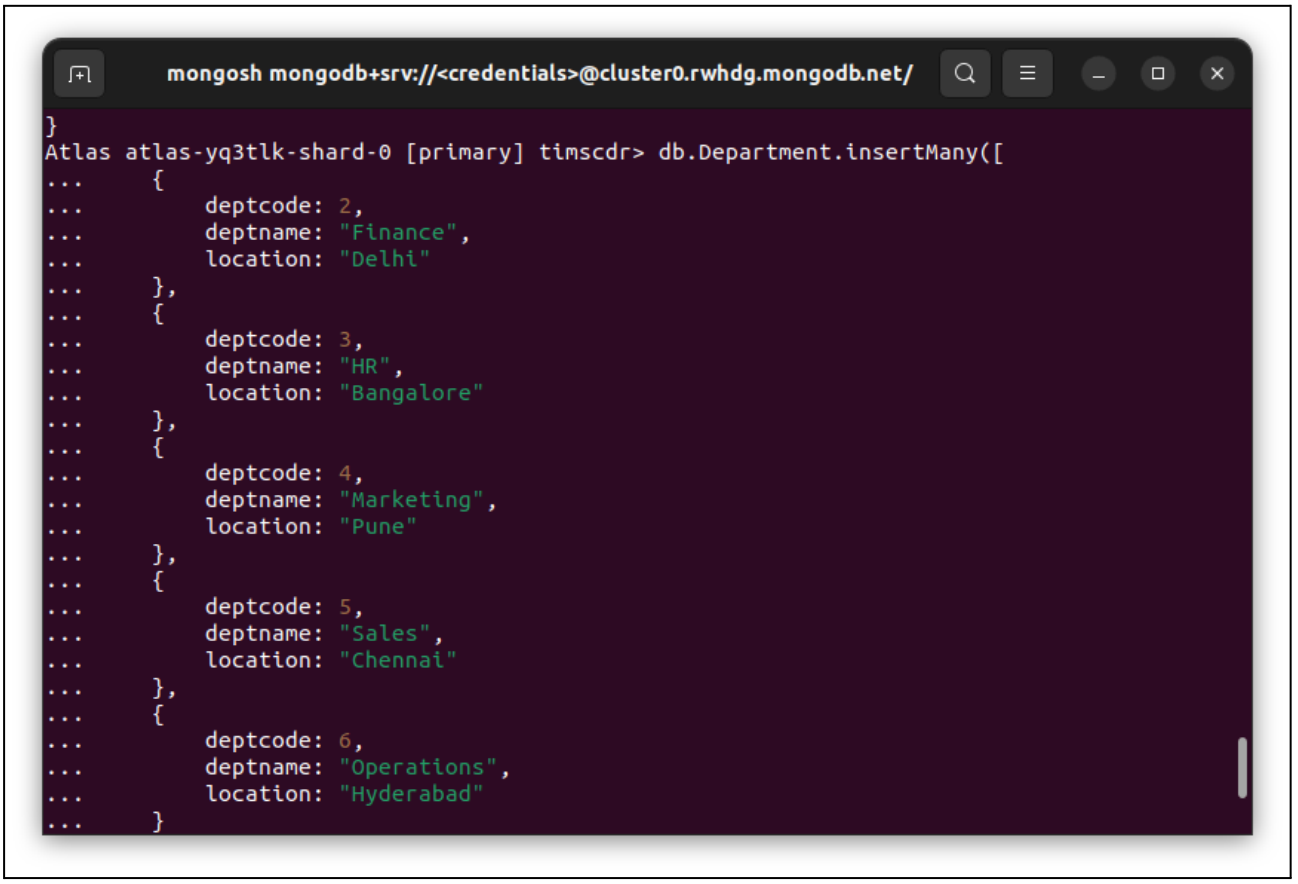
2. Create a MongoDB collections employee and Department under the database college

Employee:	**Dept table:**
empcode INT, empfname STRING, emplname STRING, job STRING, manager STRING, hiredate STRING, salary INT, commission INT, deptcode INT	deptcode INT, deptname STRING, location STRING

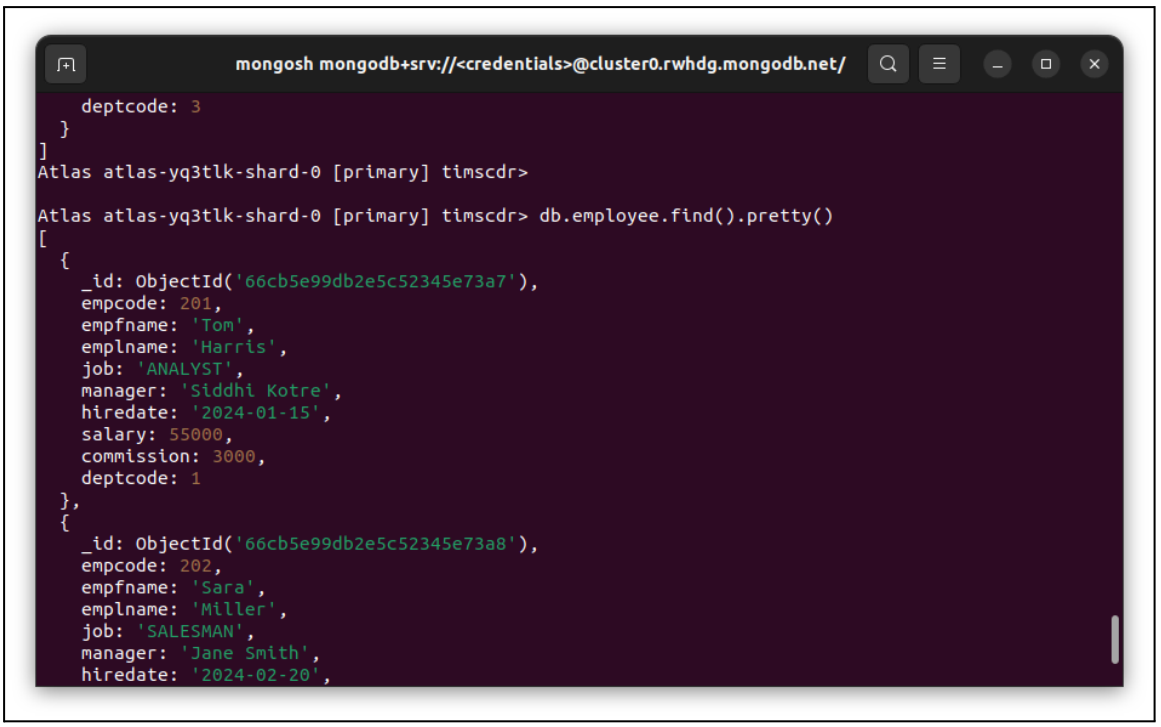


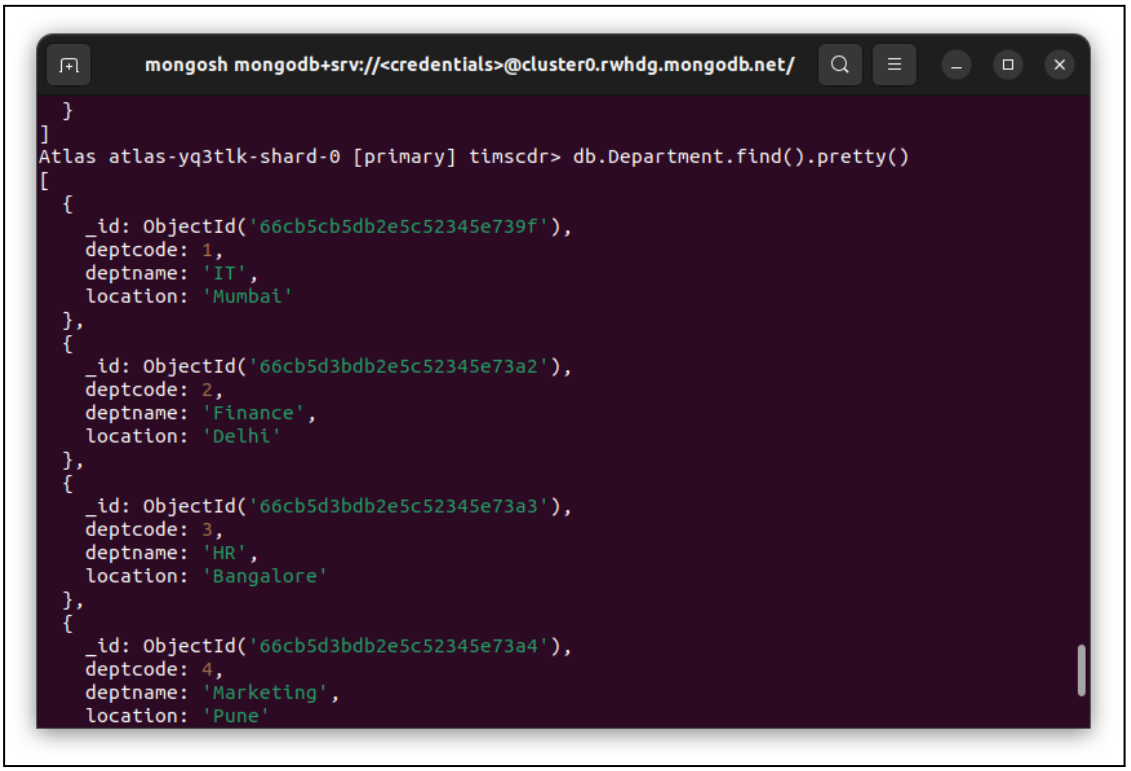
3. Insert multiple documents in the collections employee and department.



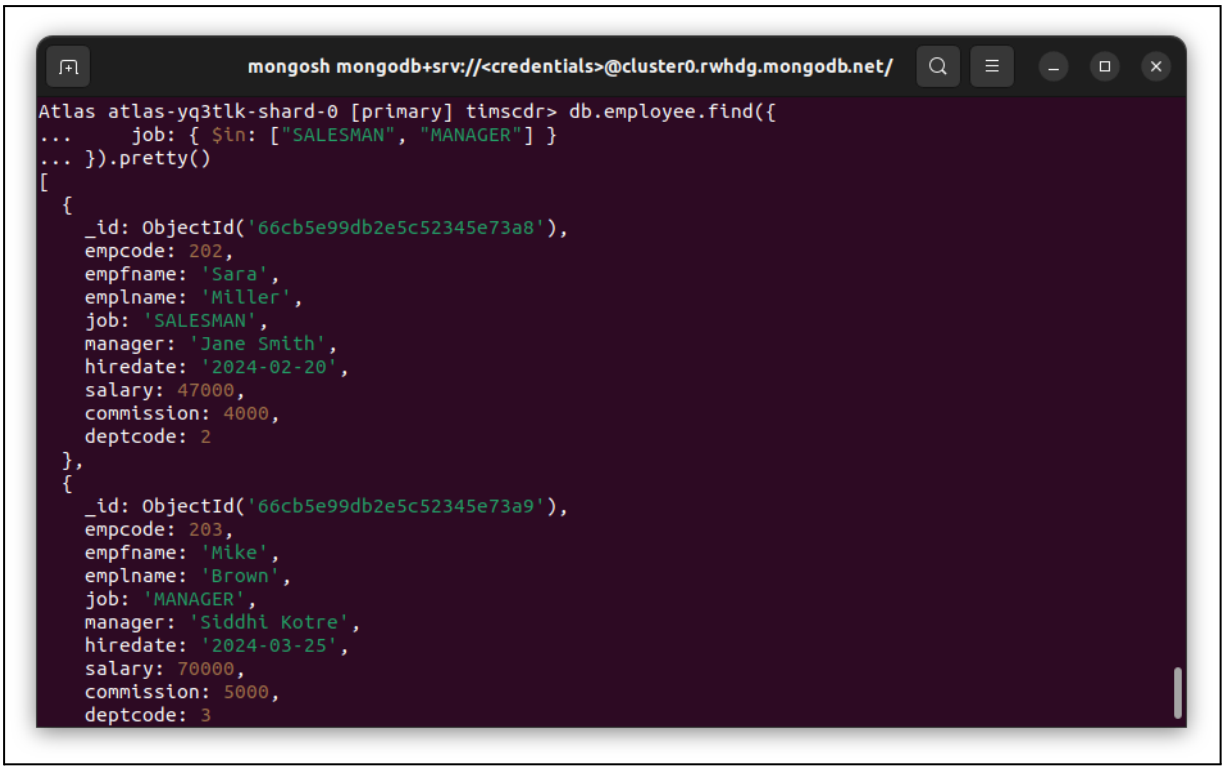


4. List all the documents inside a collections employee and department both.





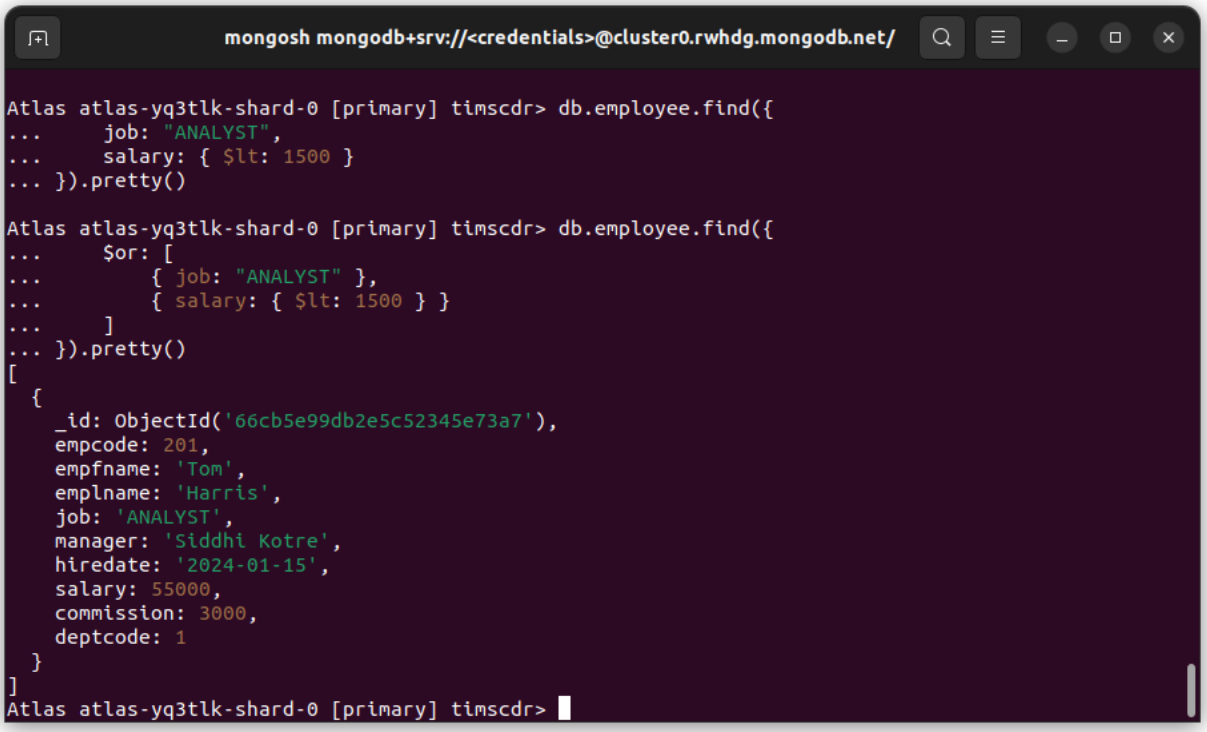
5. List all the documents of employee collection WHERE job in ("SALESMAN ", "MANAGER"):



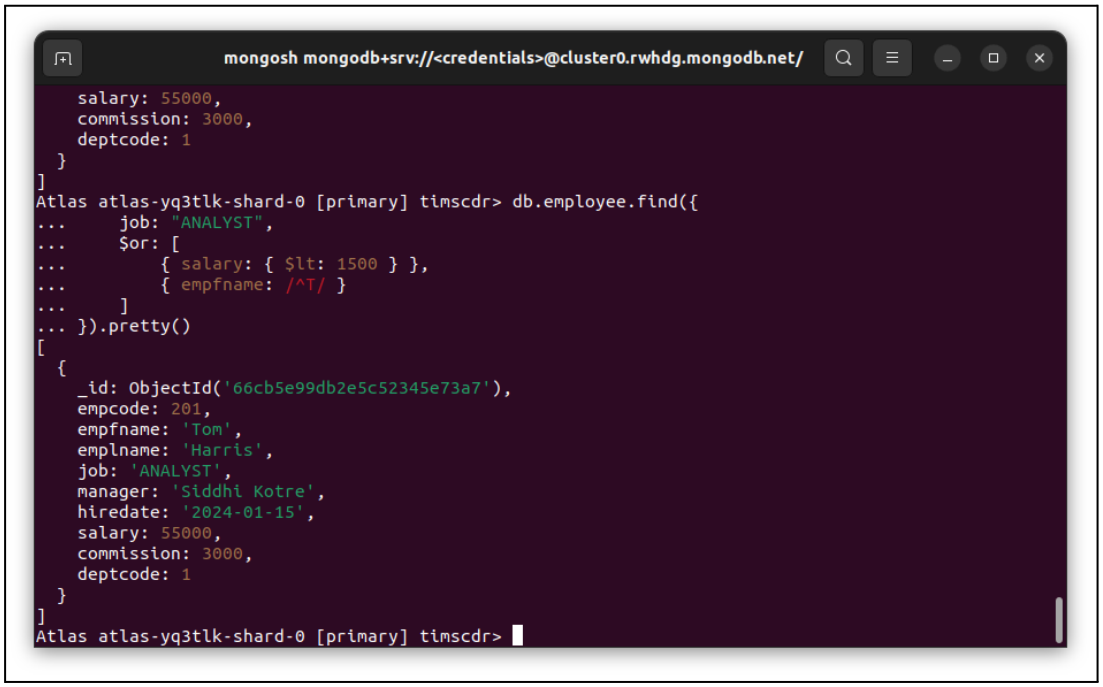
6. List all the documents of employee collection WHERE job = " ANALYST" AND SALARY < 1500:

7. List all the documents of employee collection WHERE job = " ANALYST" or SALARY < 1500:

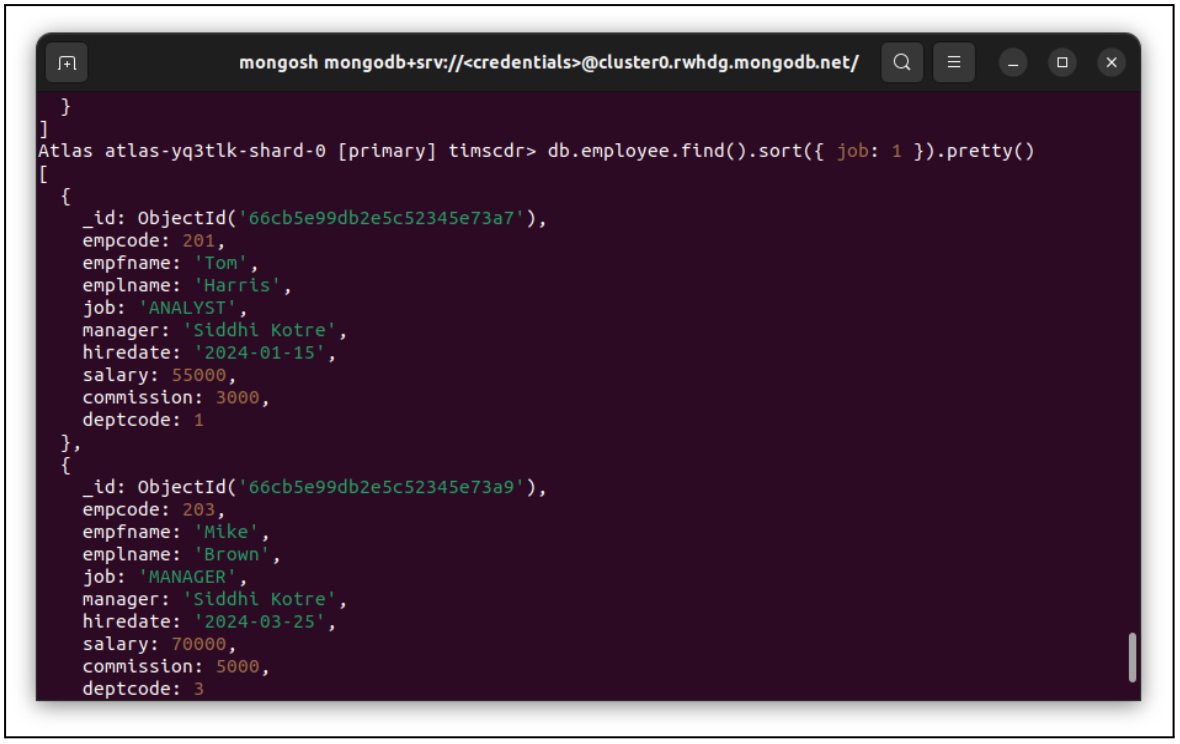
Output for 6&7:



8. List all the documents of employee collection WHERE job = " ANALYST" AND (SALARY < 1500 OR empfname LIKE "T%")



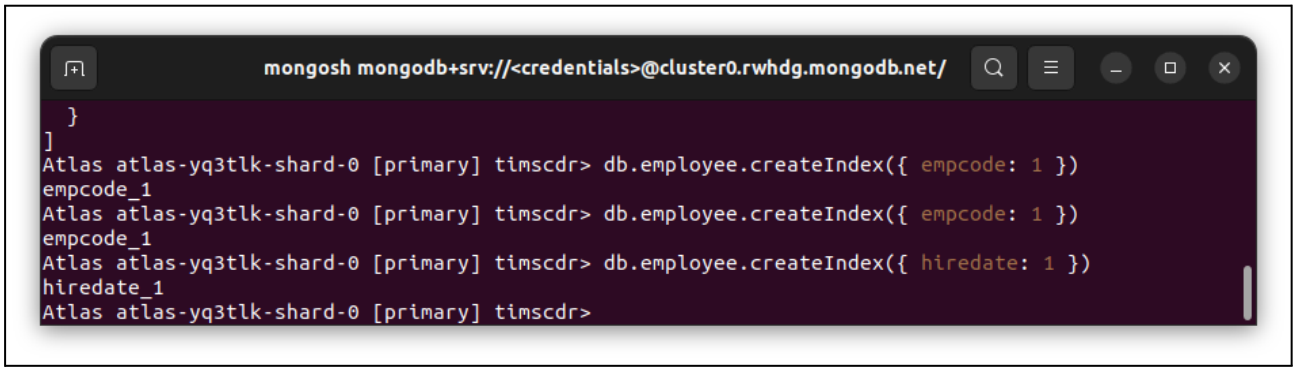
9. List all the documents of employee collection in ascending order of job type.



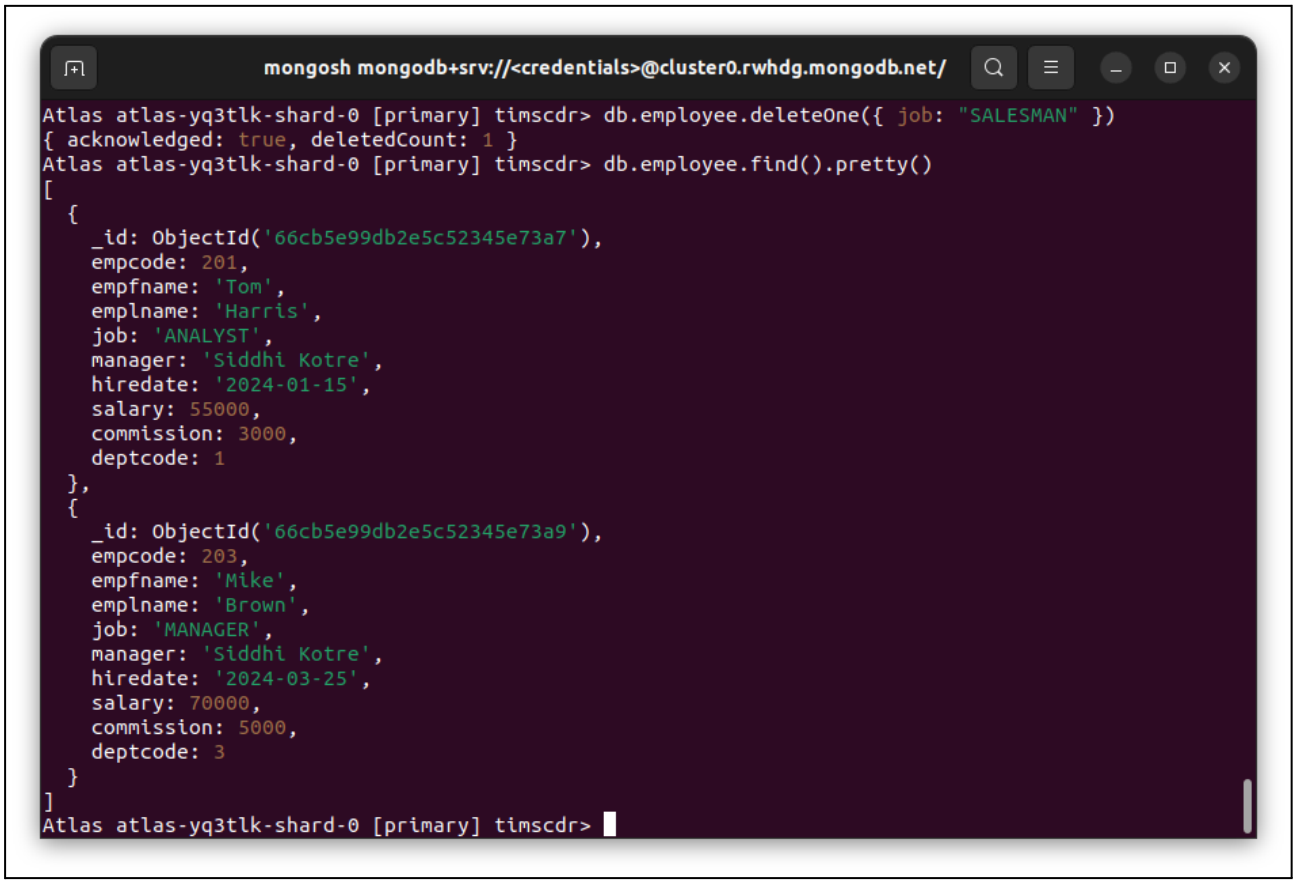
10. Create an index on the empcode field of employee collection.

11. Create multiple indices on empcode and hiredate fields of employee collection.

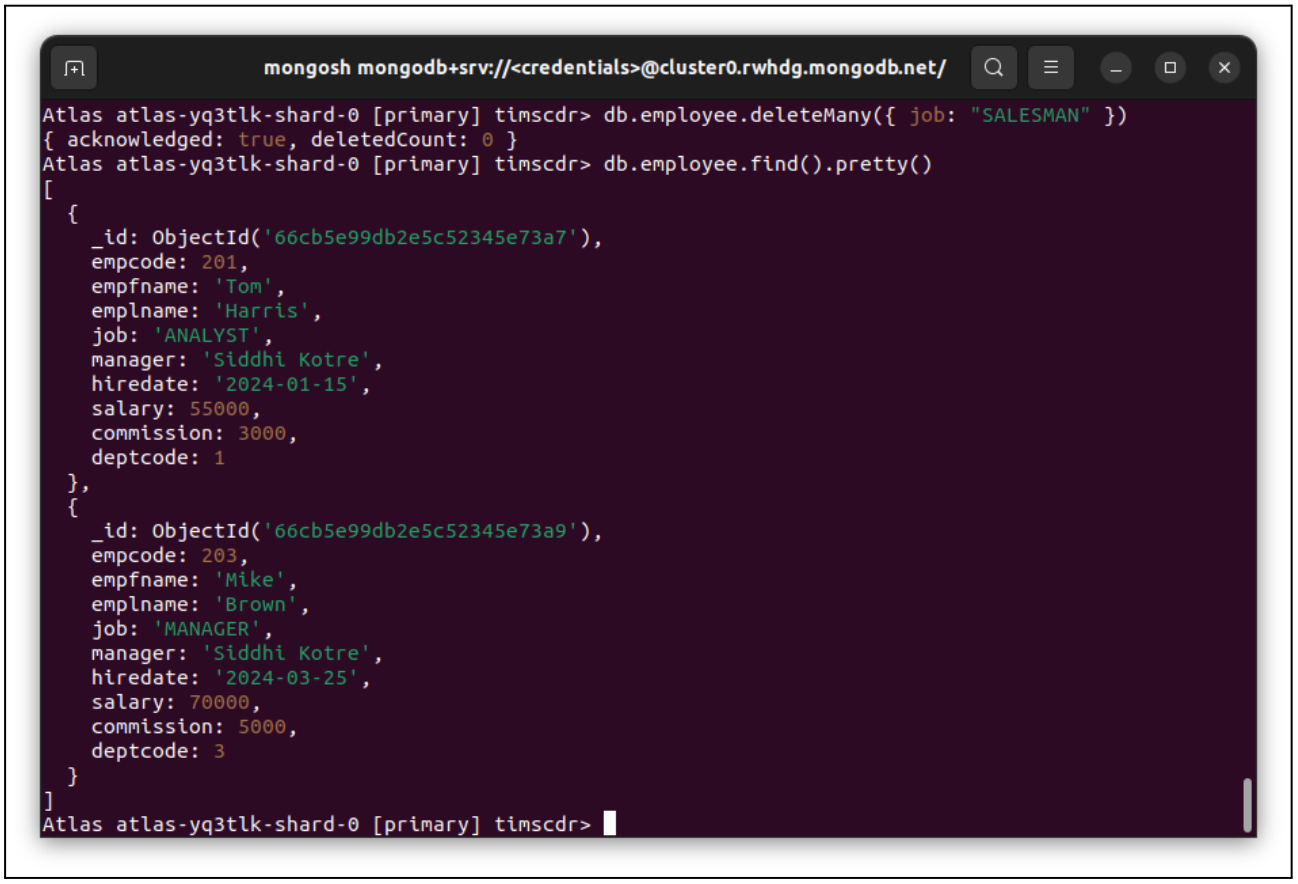
Output for 10&11:



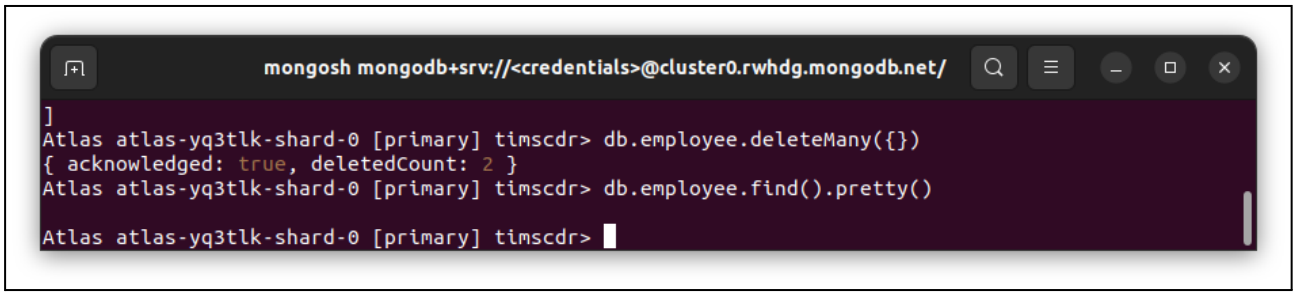
12. Delete first record of employee collection where the job is SALESMAN.



13. Delete all the records of employee collection where the job is SALESMAN.



14. Delete all the records of employee collection



Conclusion:

MongoDB aims to address the challenges of modern data management by providing a flexible, scalable, and high-performance database solution. Its design and features are geared towards supporting diverse data types, handling large volumes of data, and simplifying the development and operational aspects of database management.