HBase + Hive + MapReduce Examples

# 🔥 HBase Example

Problem: Create a table for Student records with columns for Name, Department, and Marks.

1. Start HBase shell:

hbase shell

2. Create a Table:

create 'student', 'details'

3. Insert Data:

put 'student', '1', 'details:name', 'John Doe'  
put 'student', '1', 'details:department', 'CSE'  
put 'student', '1', 'details:marks', '85'

4. Retrieve Data:

scan 'student'

5. Get Specific Row:

get 'student', '1'

# 🚀 Hive Example

Problem: Create a table for Employee details and query all employees in a specific department.

1. Start Hive CLI:

hive

2. Create a Table:

CREATE TABLE employee (  
 id INT,  
 name STRING,  
 department STRING,  
 salary FLOAT  
)  
ROW FORMAT DELIMITED  
FIELDS TERMINATED BY ','  
STORED AS TEXTFILE;

3. Load Data into the Table:

LOAD DATA LOCAL INPATH '/path/to/employee\_data.txt' INTO TABLE employee;

4. Query the Table:

SELECT \* FROM employee WHERE department = 'IT';

# 💻 MapReduce Examples

## HBase MapReduce Example

Problem: Count the number of students in each department using MapReduce.

Mapper emits (department, 1)  
Reducer sums the counts

## Hive MapReduce Example

Problem: Find the average salary department-wise using Hive (internally MapReduce).

SELECT department, AVG(salary) FROM employee GROUP BY department;

Mapper emits (department, salary)  
Reducer computes average