**What Are We Going to Do? (Step-by-Step)**

1. **Create an HBase table** (e.g., student\_data)
2. **Create an external Hive table** that maps to the HBase table  
   (This table uses **HBaseStorageHandler**)
3. **Insert some data into Hive table**
4. **Verify that the same data is now also in HBase**  
   (Because Hive and HBase are connected)

**Step 1: Create an HBase Table**

We’ll create a simple table in HBase to store student data.

hbase shell

Inside the HBase shell:

create 'student\_data', 'info'

**Explanation**:

* student\_data is the table name.
* info is the column family.

**Step 2: Create an External Hive Table That Maps to the HBase Table**

Now exit HBase shell and open Hive:

exit

hive

Then in Hive prompt:

CREATE EXTERNAL TABLE student\_data\_hive (

key INT,

name STRING,

marks INT

)

STORED BY 'org.apache.hadoop.hive.hbase.HBaseStorageHandler'

WITH SERDEPROPERTIES (

"hbase.columns.mapping" = ":key,info:name,info:marks"

)

TBLPROPERTIES (

"hbase.table.name" = "student\_data"

);

**Explanation**:

* EXTERNAL TABLE: This table doesn’t store data in Hive but points to an **HBase table**.
* key = row key in HBase.
* info:name and info:marks are columns under the HBase column family info.
* HBaseStorageHandler allows Hive to talk to HBase directly.

**Step 3: Insert Data into the Hive Table**

Now insert a few sample records into the Hive table, which will get stored in HBase:

INSERT INTO TABLE student\_data\_hive VALUES (1, 'Ali', 85);

INSERT INTO TABLE student\_data\_hive VALUES (2, 'Sara', 92);

INSERT INTO TABLE student\_data\_hive VALUES (3, 'John', 76);

**Step 4: Verify in Hive**

SELECT \* FROM student\_data\_hive;

You should see the inserted records.

**Step 5: Verify in HBase**

Now go back to HBase shell and scan the data:

hbase shell

scan 'student\_data'

You will see the same values there, stored in HBase!

**Recap of Key Concepts:**

| **Term** | **Meaning** |
| --- | --- |
| **EXTERNAL TABLE** | Hive table pointing to an external data source (HBase here) |
| **HBaseStorageHandler** | Allows Hive to read/write to HBase |
| **hbase.columns.mapping** | Tells Hive how Hive columns map to HBase fields |
| **scan 'table'** | HBase command to view table contents |