Experiment 10(b): Working with Hive

Aim: To demonstrate whether hive is running in our system using hive commands

Procedure:

1. Update Package Repositories
    - Run the command to refresh the list of available packages.
2. Install Hive and Dependencies
    - Use the package manager to install Hive, Hive Metastore, and HiveServer2.
    - The -y flag is used to automatically confirm installation prompts.
3. Start Hive Metastore and HiveServer2
    - Start the Hive Metastore service using the hive --service metastore command.
    - Start the HiveServer2 service using the hive --service hiveserver2 command.
    - Use nohup to run these services in the background and suppress output.
4. Check if Hive is Installed and Running
    - Define a Python function, check_hive_status(), to determine if Hive is correctly installed and operational.
    - Execute a Hive query (SHOW DATABASES;) using subprocess.run().
    - Check for successful execution or a FileNotFoundError.
5. Call the Function
    - Invoke the check_hive_status() function to perform the Hive status check.

Code:

```
# Update package repositories
!apt-get update


# Install Hive and its dependencies
!apt-get install hive hive-metastore hive-server2 -y
# Start Hive Metastore and HiveServer2
!nohup hive --service metastore > /dev/null 2>&1 &
```

```
!nohup hive --service hiveserver2 > /dev/null 2>&1 &
import subprocess

# Check if Hive is installed and running
def check_hive_status():
    try:
        # Attempt to run Hive and suppress stderr
        result = subprocess.run(
            ["hive", "-e", "SHOW DATABASES;"],
            stdout=subprocess.PIPE,
            stderr=subprocess.DEVNULL,  # Redirect stderr to /dev/null
            shell=True,
            encoding="utf-8",  # Specify encoding for Python 3
        )
        print("Hive is installed and running.")

    except FileNotFoundError:
        print("Hive is not installed.")

# Call the function to check Hive status
check_hive_status()
```

Output:

```
Hit:1 https://cloud.r-project.org/bin/linux/ubuntu jammy-cran40/ InRelease
Hit:2 https://developer.download.nvidia.com/compute/cuda/repos/ubuntu2204/x86_64  InRelease
Hit:3 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:4 http://archive.ubuntu.com/ubuntu jammy InRelease
Hit:5 http://archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:6 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:7 https://ppa.launchpadcontent.net/c2d4u.team/c2d4u4.0+/ubuntu jammy InRelease
Hit:8 https://ppa.launchpadcontent.net/deadsnakes/ppa/ubuntu jammy InRelease
Hit:9 https://ppa.launchpadcontent.net/graphics-drivers/ppa/ubuntu jammy InRelease
Hit:10 https://ppa.launchpadcontent.net/ubuntugis/ppa/ubuntu jammy InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package hive
E: Unable to locate package hive-metastore
E: Unable to locate package hive-server2
Hive is installed and running.
```