

SPARK Demonstrate the spark streaming- sending - from a terminal (SCREEN SHOT)

The screenshot displays a JupyterLab environment with a web browser interface. The address bar shows `localhost:8891/lab/tree/SparkCommon_Assignment.ipynb`. The JupyterLab interface includes a menu bar (File, Edit, View, Run, Kernel, Tabs, Settings, Help) and a toolbar. Three notebooks are open: `SparkLab1.ipynb`, `SparkLab2.ipynb`, and `SparkLab3.ipynb`. The `SparkLab3.ipynb` notebook is active, showing a code cell with the following Python code:

```
.map(lambda word: (word, 1))\
.reduceByKey(lambda a, b: a+b)

counts.pprint()
ssc.start()
ssc.awaitTermination()
```

The output of the code cell shows the following sequence of events:

```
-----
Time: 2022-01-09 21:51:40
-----
('HELLO', 1)

-----
Time: 2022-01-09 21:51:50
-----

-----
Time: 2022-01-09 21:52:00
-----
('ARE', 1)
('HELLO', 1)
('SPARK', 2)
('HOW', 1)
('YOU', 1)

-----
Time: 2022-01-09 21:52:10
-----
('SPARK', 2)
('WELCOME', 1)
('HOME', 1)

-----
Time: 2022-01-09 21:52:20
-----

-----
Time: 2022-01-09 21:52:30
-----
```

A Command Prompt window is overlaid on the JupyterLab interface, showing the execution of the following commands:

```
Microsoft Windows [Version 10.0.22000.376]
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C:\Users\raksh>nc -l -p 9999
HELLO
HELLO SPARK HOW ARE YOU SPARK
SPARK WELCOME HOME SPARK
SPARK HOME JAVA HOME HADOOP HOME PYTHON HOME SPARK PYTHON HOME
GROUP MEMBERS IN TEAM MEMBERS ARE FOUR

C:\Users\raksh>
```

The bottom status bar of the JupyterLab interface indicates the current mode is `Command`, the file is `Ln 1, Col 1`, and the notebook is `SparkCommon_Assignment.ipynb`. The system tray at the bottom shows the date and time as `21:57 09-01-2022`.