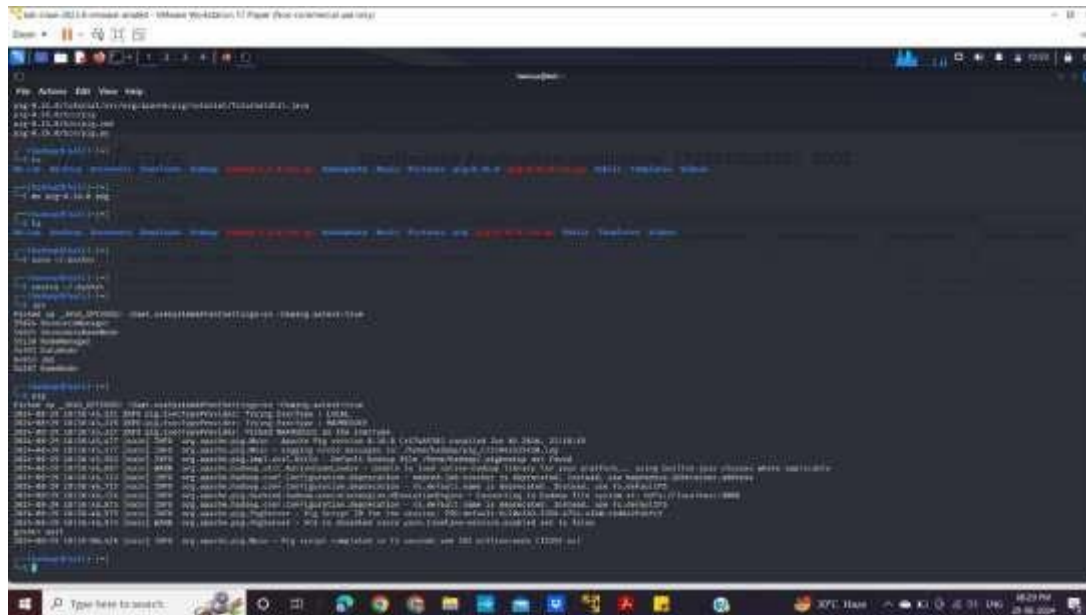


\$mv pig-0.16.0 pig

\$pig

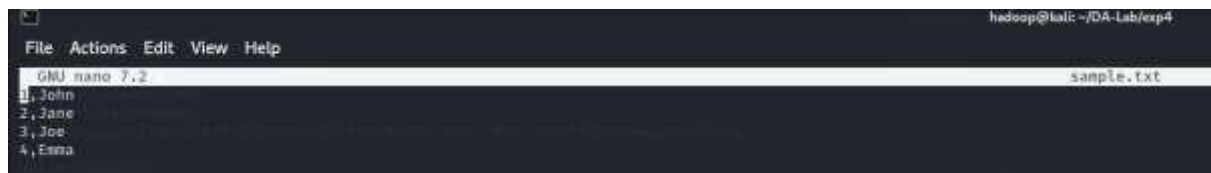


\$cd DA-Lab

\$mkdir exp4

\$cd exp4

\$nano sample.txt



\$nano demo_pig.pig



```
$hdfs dfs -mkdir /exp4
```

```
$hdfs dfs -copyFromLocal ~/DA-Lab/exp4/sample.txt /exp4
```

\$pig demo_pig.pig

The image displays two sequential screenshots of a Kali Linux virtual machine environment. Both windows show the Metasploit Meterpreter framework interface.

The top window shows the initial state:
- Title bar: "Kali Linux - VMware Workstation 17 Player".
- Top menu: "File Actions Edit View Help".
- Command prompt output:
 - `msf6 > sysinfo` displays host details like OS name (Ubuntu 22.04), architecture (x86_64), and kernel version (5.15.0-76-generic).
 - `msf6 > load` lists available extensions such as `auto_load_extensions`, `csharp`, `java`, etc., with their respective versions.
- Bottom taskbar: Shows standard Ubuntu application icons and system tray elements like network, volume, and date/time (10:50 PM, 10/26/2024).

The bottom window shows the same session after further interaction:
- It displays a large number of entries from the `load` command, indicating many extensions are being loaded or verified.
- A new section titled "Hosts:" appears, listing IP addresses and their connection status (e.g., "10.10.10.10 - Connected").
- The bottom taskbar remains identical to the first screenshot.

\$nano uppercase_udf.py

```

File Actions Edit View Help
GNU nano 7.2                                     uppercase_udf.py
def uppercase(text):
    return text.upper()
if __name__ == "__main__":
    import sys
    for line in sys.stdin:
        line = line.strip()
        result = uppercase(line)
        print(result)

```

\$hdfs dfs -copyFromLocal ~/DA-Lab/exp4/uppercase_udf.py /exp4

```

(hadoop@kali) [~/hadoop/bin]
$ ./hdfs dfs -ls /exp4
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
2024-09-21 00:26:01,736 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform...
Found 3 items
drwxr-xr-x   - hadoop supergroup          0 2024-08-30 05:07 /exp4/output
-rw-r--r--   1 hadoop supergroup        27 2024-08-30 04:43 /exp4/sample.txt
-rw-r--r--   1 hadoop supergroup       172 2024-08-30 05:02 /exp4/uppercase_udf.py

```

\$nano udf_example.pig

```

File Actions Edit View Help
GNU nano 7.2                                     udf_example.pig
-- Register the Python UDF script
REGISTER 'hdfs:///exp4/uppercase_udf.py' USING jython AS udf;
-- Load some data
data = LOAD 'hdfs:///exp4/sample.txt' AS (text:chararray);
-- Use the Python UDF
uppercased_data = FOREACH data GENERATE udf.uppercase(text) AS uppercase_Text;
-- Store the result
STORE uppercased_data INTO 'hdfs:///exp4/output';

```

\$pig -f udf_example.pig

```

kali@kali: ~$ pig -f udf_example.pig
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
2024-09-21 00:26:01,736 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 3 items
drwxr-xr-x   - hadoop supergroup          0 2024-08-30 05:07 /exp4/output
-rw-r--r--   1 hadoop supergroup        27 2024-08-30 04:43 /exp4/sample.txt
-rw-r--r--   1 hadoop supergroup       172 2024-08-30 05:02 /exp4/uppercase_udf.py

```


[illegible]

```
$hdfs dfs -cat /exp4/output/*
```

```
(hadoop@kali)~[~/hadoop/bin]
$ ./hdfs dfs -cat /exp4/output/*
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
2024-09-21 00:33:32,731 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform...
1,JOHN
2,JANE
3,JOE
4,EMMA
```