

Experiment 2

Aim: Use Hadoop to explore large-scale datasets stored in the Hadoop Distributed File System (HDFS).

Directory:

```
C:\Windows\System32>jps
13380 DataNode
15684 NameNode
8228 NodeManager
15592 Jps
17800 ResourceManager

C:\Windows\System32>hdfs dfs -mkdir /test_directory

C:\Windows\System32>hdfs dfs -ls /
Found 1 items
drwxr-xr-x - rawat supergroup          0 2024-09-01 18:54 /test_directory

C:\Windows\System32>hdfs dfs -mkdir /test_directory/BDA_Experiment_2

C:\Windows\System32>hdfs dfs -ls /
Found 1 items
drwxr-xr-x - rawat supergroup          0 2024-09-01 19:12 /test_directory

C:\Windows\System32>hdfs dfs -ls /test_directory
Found 1 items
drwxr-xr-x - rawat supergroup          0 2024-09-01 19:12 /test_directory/BDA_Experiment_2
```

Fig 1: Making Directory

File Transfer:

```
C:\Windows\System32>hdfs dfs -put C:\Users\rawat\Downloads\Rainfall-Dataset.csv /test_directory/BDA_Experiment_2

C:\Windows\System32>hdfs dfs -ls /test_directory/BDA_Experiment_2
Found 2 items
-rw-r--r--  3 rawat supergroup      437910 2024-09-01 19:24 /test_directory/BDA_Experiment_2/Rainfall-Dataset.csv
-rw-r--r--  3 rawat supergroup      1733375 2024-09-01 19:16 /test_directory/BDA_Experiment_2/Sales-Dataset.csv

C:\Windows\System32>hdfs dfs -cat /test_directory/BDA_Experiment_2/Rainfall-Dataset.csv
DIVISION, YEAR, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, ANNUAL, Jan-Feb, Mar-May, Jun-Sep, Oct-Dec
ANDAMAN & NICOBAR ISLANDS, 1901, 49.2, 87.1, 29.2, 2.3, 528.8, 517.5, 365.1, 481.1, 332.6, 388.5, 558.2, 33.6, 3373.2, 136.3, 560.3, 1696.3, 980.3
ANDAMAN & NICOBAR ISLANDS, 1902, 0, 159.8, 12.2, 0, 446.1, 537.1, 228.9, 753.7, 666.2, 197.2, 359, 160.5, 3520.7, 159.8, 458.3, 2185.9, 716.7
ANDAMAN & NICOBAR ISLANDS, 1903, 12.7, 144, 0, 1, 235.1, 479.9, 728.4, 326.7, 339, 181.2, 284.4, 225, 2957.4, 156.7, 236.1, 1874, 690.6
ANDAMAN & NICOBAR ISLANDS, 1904, 9.4, 14.7, 0, 202.4, 304.5, 495.1, 502, 160.1, 820.4, 222.2, 308.7, 40.1, 3079.6, 24.1, 506.9, 1977.6, 571
ANDAMAN & NICOBAR ISLANDS, 1905, 1.3, 0, 3.3, 26.9, 279.5, 628.7, 368.7, 330.5, 297, 260.7, 25.4, 344.7, 2566.7, 1.3, 309.7, 1624.9, 630.8
ANDAMAN & NICOBAR ISLANDS, 1906, 36.6, 0, 0, 0, 556.1, 733.3, 247.7, 320.5, 164.3, 267.8, 128.9, 79.2, 2534.4, 36.6, 556.1, 1465.8, 475.9
ANDAMAN & NICOBAR ISLANDS, 1907, 110.7, 0, 113.3, 21.6, 616.3, 305.2, 443.9, 377.6, 200.4, 264.4, 648.9, 245.6, 3347.9, 110.7, 751.2, 1327.1, 1158.9
ANDAMAN & NICOBAR ISLANDS, 1908, 20.9, 85.1, 0, 29, 562, 693.6, 481.4, 699.9, 428.8, 170.7, 208.1, 196.9, 3576.4, 106, 591, 2303.7, 575.7
ANDAMAN & NICOBAR ISLANDS, 1910, 26.6, 22.7, 206.3, 89.3, 224.5, 472.7, 264.3, 337.4, 626.6, 208.2, 267.3, 153.5, 2899.4, 49.3, 520.1, 1701, 629
```

Fig 2: Transferring Files and File Operations