

Nama : Hertin Nurhayati

Kelas : SIB 3E

Absen : 10

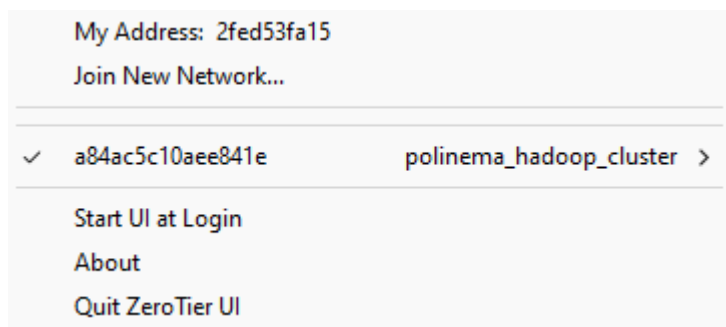
NIM : 2241760025

Mata Kuliah Big Data

03. Infrastruktur Big Data Bagian-1 (HDFS)

Konfigurasi VPN

1. Client Bergabung ke Jaringan VPN



2. Install VPN Client

```
PS C:\Users\acer> ping 172.29.253.67

Pinging 172.29.253.67 with 32 bytes of data:
Reply from 172.29.253.67: bytes=32 time=15ms TTL=64
Reply from 172.29.253.67: bytes=32 time=6ms TTL=64
Reply from 172.29.253.67: bytes=32 time=22ms TTL=64
Reply from 172.29.253.67: bytes=32 time=7ms TTL=64

Ping statistics for 172.29.253.67:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 22ms, Average = 12ms
```

3. Mengakses Cluster Hadoop

```

PS C:\Users\acer> ssh hadoopuser@172.29.247.62
hadoopuser@172.29.247.62's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-54-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Tue Mar 11 04:38:58 AM UTC 2025

System load:  0.38               Processes:            154
Usage of /:   76.0% of 9.74GB    Users logged in:     1
Memory usage: 47%               IPv4 address for enp0s3: 192.168.2.203
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

26 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

*** System restart required ***
Last login: Tue Mar 11 04:39:20 2025 from 172.29.89.184

```

4. Cek Status Name Node

```

hadoopuser@hadoop-namenode:~$ jps
1699 SecondaryNameNode
1878 ResourceManager
38055 FsShell
38075 Jps
1455 NameNode

```

5. Melihat Status Data Nodes

- Anda dapat melihat status data nodes saat ini melalui GUI Web yang dapat diakses melalui alamat: <http://172.29.247.62:9870/dfshealth.html>

Overview 'hadoop-namenode:9000' (✓active)

Started:	Fri Mar 07 08:51:43 +0700 2025
Version:	3.4.1, r4d7825309348956336b06a08322b78422849b1
Compiled:	Wed Oct 09 21:57:00 +0700 2024 by mihakur from branch-3.4.1
Cluster ID:	CID-3e28bd4b-1e31-47c4-9300-979d5967571b
Block Pool ID:	BP-1878800960-192.168.2.204-1739979975544

Summary

Security is off.
Safemode is off.

188 files and directories, 44 blocks (44 replicated blocks, 0 erasure coded block groups) = 232 total filesystem object(s).
Heap Memory used 54.41 MB of 163.5 MB Heap Memory. Max Heap Memory is 871.5 MB.

6. Melihat Status Data Nodes

- Klik menu Datanodes untuk melihat informasi data node yang ada pada cluster

Datanode Information

✓ In service ✗ Down ✓ Decommissioning ✗ Decommissioned ✗ Decommissioned & dead
 ✓ Entering Maintenance ✗ In Maintenance ✗ In Maintenance & dead

Datanode usage histogram

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Disk usage of each DataNode (%)

In operation

7. Melihat Status Pemrosesan MapReduce

- Anda dapat melihat status data nodes saat ini melalui GUI Web yang dapat diakses melalui alamat: <http://172.29.247.62:8088/cluster>

8. Perintah-perintah dasar Hadoop:

- Melihat versi Hadoop

```
hadoopuser@hadoop-namenode:~$ hadoop version
Hadoop 3.4.1
Source code repository https://github.com/apache/hadoop.git -r 4d7825309348956336b8f06a08322b78422849b1
Compiled by mthakur on 2024-10-09T14:57Z
Compiled on platform linux-x86_64
Compiled with protoc 3.23.4
From source with checksum 7292fe9dba5e2e44e3a9f763fce3e680
This command was run using /usr/local/hadoop/share/hadoop/common/hadoop-common-3.4.1.jar
```

- Membuat direktori

```
hadoopuser@hadoop-namenode:~$ hadoop fs -mkdir /SIB-3E/10_HertinNurhayati
```

- Melihat direktori

```
hadoopuser@hadoop-namenode:~$ hadoop fs -ls /SIB-3E
Found 13 items
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:49 /SIB-3E/03_AgtaFadjrInAminullah
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:57 /SIB-3E/04_AgungNugroho
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:48 /SIB-3E/05_Al baniRajataMalik
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 05:08 /SIB-3E/07_DimasRosyidin
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:59 /SIB-3E/09_FitriaNurSholikah
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:51 /SIB-3E/10_HertinNurhayati
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:47 /SIB-3E/11_HilmyZakyy
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:47 /SIB-3E/12_FikriSetiawan
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:59 /SIB-3E/13_MuhammadIvanYodaBellamy
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 05:02 /SIB-3E/15_NaufalPutra
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:51 /SIB-3E/16_RegaDaneWijayanta
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:57 /SIB-3E/18_SyavaApriliaP
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:46 /SIB-3E/19_ZanuarAldiSyahputra
hadoopuser@hadoop-namenode:~$
```