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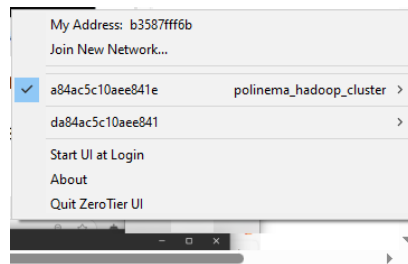
Kelas : SIB 3E

## BIG DATA

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1. Download dan install VPN ZeroTier
2. Konfigurasi VPN Client dan Bergabung ke Jaringan VPN dengan :
  - Klik kanan ikon ZeroTier di system tray.
  - Klik "Join New Network".
  - Memasukkan network ID **a84ac5c10aee841e**

Hasil :



3. Menguji apakah sudah terhubung dengan jaringan VPN cluster Hadoop :
  - Buka CMD/terminal
  - Lalu ping IP 172.29.253.67

Hasil

```
C:\Users\Asus>ping 172.29.253.67

Pinging 172.29.253.67 with 32 bytes of data:
Reply from 172.29.253.67: bytes=32 time=19ms TTL=64
Reply from 172.29.253.67: bytes=32 time=13ms TTL=64
Reply from 172.29.253.67: bytes=32 time=47ms TTL=64
Reply from 172.29.253.67: bytes=32 time=72ms 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 = 13ms, Maximum = 72ms, Average = 37ms

C:\Users\Asus>
```

4. Mengakses Cluster Hadoop
  - a. Mencoba menghubungkan dengan node melalui SSH

- Ketikkan perintah: `ssh hadoopuser@172.29.253.67`
- Masukkan password: Hadoop

**Hasil:**

```
C:\Users\Asus>ssh hadoopuser@172.29.247.62
hadoopuser@172.29.247.62's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-55-generic x86_64)

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

System information as of Tue Mar 18 04:37:12 AM UTC 2025

System load:  0.12               Processes:            121
Usage of /:   76.8% of 9.74GB    Users logged in:     1
Memory usage: 23%               IPv4 address for enp0s3: 192.168.2.142
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

32 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

Last login: Tue Mar 18 01:03:45 2025 from 172.29.3.182
hadoopuser@hadoop-namenode:~$
```

**b. Cek Status Name Node :**

- Ketik perintah “jps” **Hasil:**

```
hadoopuser@hadoop-namenode:~$ jps
3097 SecondaryNameNode
2846 NameNode
9503 Jps
hadoopuser@hadoop-namenode:~$
```


Berhasil terhubung dengan name node melalui SSH dengan cek pada terminal mengetikkan perintah “JPS” dan menampilkan status mesin saat ini yang bertugas sebagai name node.

**c. Melihat Status Data Nodes**

Status data nodes saat ini melalui GUI Web yang dapat diakses melalui alamat:

- <http://172.29.247.62:9870/dfshealth.html> **Hasil:**





▼ Cluster

About

Nodes

Node Labels

Applications

NEW

SAVING

SUBMITTED

ACCEPTED

RUNNING

FINISHED

FAILED

KILLED

Scheduler

Tools

All Applications

Cluster Metrics

Apps Submitted	Apps Pending	Apps Running	Apps Completed	Containers Running	Used Resources	Total Resources
0	0	0	0	0	<memory:0 B, vCores:0>	<memory:0 B, vCores:0>

Cluster Nodes Metrics

Active Nodes	Decommissioning Nodes	Decommissioned Nodes	Lost Nodes
0	0	0	0

Scheduler Metrics

Scheduler Type	Scheduling Resource Type	Minimum Allocation	Maximum Allocation	Maximum Cluster Application Priority
Capacity Scheduler	[memory-mb (unit-Mb), vcores]	<memory:1024, vCores:1>	<memory:8192, vCores:4>	0

Show 20 ▼ entries

ID ▼	User	Name	Application Type	Application Tags	Queue	Application Priority	StartTime	LaunchTime	FinishTime	State	FinalStatus	Running Containers	Allocated CPU Vcores
No data available in table													

Showing 0 to 0 of 0 entries

## 5. Melihat Versi Hadoop -

Ketik : `hadoop version`

Hasil:

```
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
hadoopuser@hadoop-namenode:~$
```

## 6. Membuat Folder

- Ketik : `hadoop fs -mkdir /SIB-3E/08_FidaCahayaSasmita`

Hasil:

```
hadoopuser@hadoop-namenode:~$ hadoop fs -mkdir /SIB-3E/08_FidaCahayaSasmita
hadoopuser@hadoop-namenode:~$
```

## 7. Melihat Folder-folder yang ada

- Ketik : `hadoop fs -ls`

/SIB-3E Hasil:

```
hadoopuser@hadoop-namenode:~$ hadoop fs -ls /SIB-3E
Found 15 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_AlbaniaRajataMalik
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 05:28 /SIB-3E/06_AngeliaAnna
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 05:08 /SIB-3E/07_DimasRosyidin
drwxr-xr-x - hadoopuser supergroup 0 2025-03-18 05:02 /SIB-3E/08_FidaCahayaSasmita
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
```