

LAPORAN JOBSHEET

BIG DATA



Oleh:

ALBANI RAJATA MALIK

2241760080/05

SIB 3E

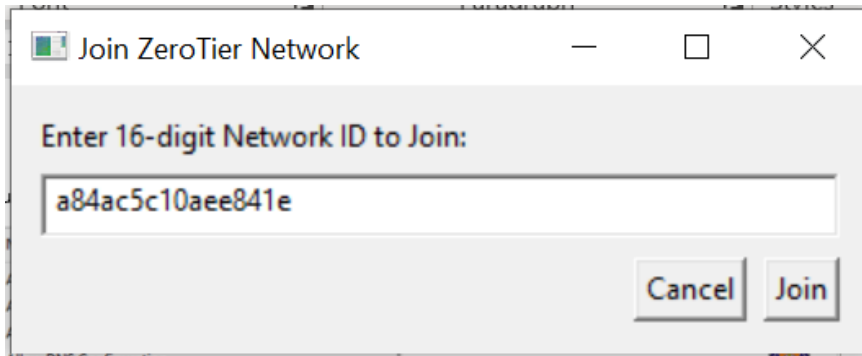
PROGAM STUDI D-IV SISTEM INFORMASI BISNIS

JURUSAN TEKNOLOGI INFORMASI

POLITEKNIK NEGERI MALANG

Langkah-langkah

Join network



Menguji koneksi dengan jaringan VPN

```
C:\Windows\system32>ping 172.29.253.67

Pinging 172.29.253.67 with 32 bytes of data:
Reply from 172.29.253.67: bytes=32 time=31ms TTL=64
Reply from 172.29.253.67: bytes=32 time=6ms TTL=64
Reply from 172.29.253.67: bytes=32 time=12ms TTL=64
Reply from 172.29.253.67: bytes=32 time=14ms 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 = 31ms, Average = 15ms
```

Mengakses cluster Hadoop

```
PS C:\Users\USER> ssh hadoopuser@172.29.247.62
The authenticity of host '172.29.247.62 (172.29.247.62)' can't be established.
ED25519 key fingerprint is SHA256:BjHVtsH6B+jEGxXcmJXyg4N7pbcsIvsSS+Eih0qkH0E.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.29.247.62' (ED25519) to the list of known hosts.
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 04:30:02 AM UTC 2025

System load:  0.02          Processes:      133
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 04:28:32 2025 from 172.29.234.242
```

Cek status NameNode

```
hadoopuser@hadoop-namenode:~$ jps
1699 SecondaryNameNode
1878 ResourceManager
1455 NameNode
36607 Jps
```

Melihat status DataNodes

Browser address bar: 172.29.247.62:9870/dfshealth.html#tab-datanode

In operation

DataNode State: All Show 25 entries Search:


Node	Http Address	Last contact	Last Block Report	Used	Non DFS Used	Capacity	Blocks	Block pool used	Block pool usage StdDev	Version
✓/default-rack/hadoop-datanode1:9866 (192.168.2.204:9866)	http://hadoop-datanode1:9866	0s	214m	113.79 MB	9.11 GB	9.74 GB	44	113.79 MB (1.14%)	0%	3.4.1
✓/default-rack/hadoop-datanode2:9866 (192.168.2.205:9866)	http://hadoop-datanode2:9866	0s	145m	113.79 MB	9.11 GB	9.74 GB	44	113.79 MB (1.14%)	0%	3.4.1
✓/default-rack/hadoop-datanode3:9866 (192.168.2.206:9866)	http://hadoop-datanode3:9866	0s	173m	113.79 MB	9.11 GB	9.74 GB	44	113.79 MB (1.14%)	0%	3.4.1

Showing 1 to 3 of 3 entries

Previous 1 Next

Melihat status pemrosesan MapReduce

Browser address bar: 172.29.247.62:8088/cluster

 **hadoop**

Cluster

About Nodes Node Labels Applications NEW NEW_SAVING SUBMITTED ACCEPTED RUNNING FINISHED FAILED KILLED Scheduler Tools

Cluster Metrics					
Apps Submitted	Apps Pending	Apps Running	Apps Completed	Containers Running	Containers Pending
0	0	0	0	0	0

Cluster Nodes Metrics

Active Nodes	Decommissioning Nodes	Decommissioned Nodes
0	0	0

Scheduler Metrics

Scheduler Type	Scheduling Resource Type	Minimum Allocation	Maximum Allocation
Capacity Scheduler	[memory-mb (unit=M), vcores]	<memory:1024, vCores:1>	<memory:8192, vCores:4>

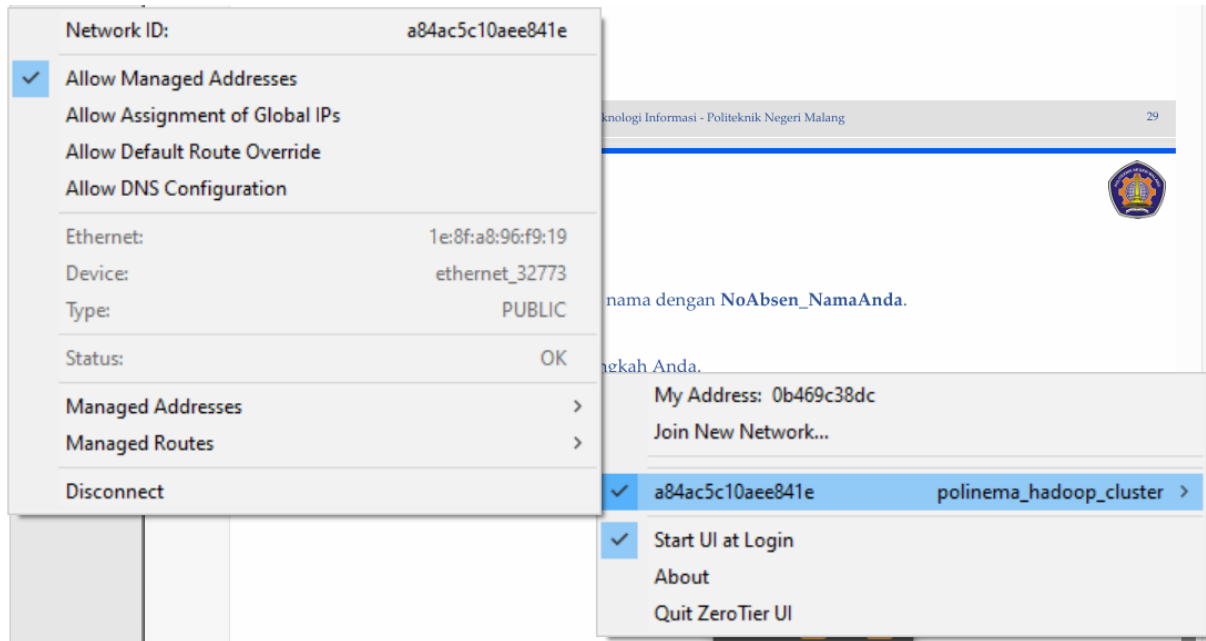
Show 20 entries

ID	User	Name	Application Type	Application Tags	Queue	Application Priority	StartTime	LaunchTime	FinishTime	State
----	------	------	------------------	------------------	-------	----------------------	-----------	------------	------------	-------

Showing 0 to 0 of 0 entries

Latihan

Terhubung ke cluster Hadoop



3 perintah dasar

version

```
hadoopuser@hadoop-namenode:~$ hadoop version
Hadoop 3.4.1
Source code repository https://github.com/apache/hadoop.git -r 4d7825309348956336b8f06a08378422849b1
Compiled by mthakur on 2024-10-09T14:57Z
Compiled on platform linux-x86_64
Compiled with protoc 3.23.4
From source with checksum 7292fe9dba5e2e44e3a9f763f3e3e680
This command was run using /usr/local/hadoop/share/hadoop/common/hadoop-common-3.4.1.jar
```

Membuat folder dan melihat list folder

```
hadoopuser@hadoop-namenode:~$ hadoop fs -mkdir /SIB-3E/05_AlbanRajataMalik
hadoopuser@hadoop-namenode:~$ hadoop fs -ls /SIB-3E
Found 4 items
drwxr-xr-x - hadoopuser supergroup 0 2025-03-11 04:48 /SIB-3E/05_AlbanRajataMalik
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 04:46 /SIB-3E/19_ZanuarAldiSyahput
```