

Nama : Muhammad Rifky Harto Biantoro

Kelas : TI-3D

NIM : 2241720176

Matkul : Big Data

1. Cobalah untuk :

a. Terhubung ke Cluster Hadoop

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+jEGxXCmJXyg4IN7pbcsIvsSS+E1h0qkH0E.
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 Sat Mar  8 02:04:42 PM UTC 2025

System load:  0.0               Processes:    129
Usage of /:   76.0% of 9.74GB   Users logged in: 1
Memory usage: 48%              IPv4 address for enp0s3: 192.168.2.203
Swap usage:   0%

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.
   https://ubuntu.com/engage/secure-kubernetes-at-the-edge

Expanded Security Maintenance for Applications is not enabled.

25 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: Fri Mar  7 18:58:21 2025 from 172.29.178.203
```

Cek Status Namenode :

```
hadoopuser@hadoop-namenode:~$ jps
1699 SecondaryNameNode
1878 ResourceManager
18765 Jps
1455 NameNode
hadoopuser@hadoop-namenode:~$ |
```

Melihat status datanode:

### Datanode Information

✓ In service
⬇ Down
🔄 Decommissioning
🚫 Decommissioned
🔴 Decommissioned & dead
  
🔄 Entering Maintenance
🔴 In Maintenance
🔴 In Maintenance & dead


#### Datanode usage histogram

Disk usage of each 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 StrDev	Version
✓ /default-ckh/hadoop-datanode1:58505 (192.168.2.204:58505)	http://hadoop-datanode1:58504	0s	71m	113.79 MB	8.45 GB	9.74 GB	44	113.79 MB (-1.54%)	0%	3.4.1
✓ /default-ckh/hadoop-datanode2:5868 (192.168.2.205:5868)	http://hadoop-datanode2:5864	2s	1m	113.79 MB	8.45 GB	9.74 GB	44	113.79 MB (-1.54%)	0%	3.4.1
✓ /default-ckh/hadoop-datanode3:5859 (192.168.2.206:5859)	http://hadoop-datanode3:5864	0s	28m	113.79 MB	8.45 GB	9.74 GB	44	113.79 MB (-1.54%)	0%	3.4.1



Cluster

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NEW

NEW\_SAVING

SUBMITTED

ACCEPTED

RUNNING

FINISHED

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		<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-M), 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	Allocated Memory MB
No data available in table														
Showing 0 to 0 of 0 entries														

b. Jalankan 3 perintah dasar tadi

i. Melihat versi Hadoop

```
hadoopuser@hadoop-namenode:~$ hadoop version
Hadoop 3.4.1
Source code repository https://github.com/apache/hadoop.git -r 4d7825309348956336b8f06a08322b78422b
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
hadoopuser@hadoop-namenode:~$
```

ii. Membuat Folder

```
hadoopuser@hadoop-namenode:~$ hadoop fs -mkdir /MuhammadRifky
```

iii. Melihat Folder yang ada

```
hadoopuser@hadoop-namenode:~$ hadoop fs -ls /
Found 30 items
drwxr-xr-x - hadoopuser supergroup          0 2025-02-25 07:33 /05_FebbyMatheIda
drwxr-xr-x - hadoopuser supergroup          0 2025-03-07 16:30 /07_HafizhMuhammadRabbani
drwxr-xr-x - hadoopuser supergroup          0 2025-02-28 10:25 /09_MayaMelanesia
drwxr-xr-x - hadoopuser supergroup          0 2025-02-25 08:04 /10_MochammadZakaroAlFajri
drwxr-xr-x - hadoopuser supergroup          0 2025-03-07 19:10 /11_muhammadiqbalmuhtaram
drwxr-xr-x - hadoopuser supergroup          0 2025-02-25 08:58 /12_MuhammadIrsyadDany
drwxr-xr-x - hadoopuser supergroup          0 2025-02-27 01:59 /13_Fifi
drwxr-xr-x - hadoopuser supergroup          0 2025-02-26 03:32 /13_Hanief
drwxr-xr-x - hadoopuser supergroup          0 2025-02-26 03:33 /13_HaniefMochsin
drwxr-xr-x - hadoopuser supergroup          0 2025-02-25 08:58 /14NurhalizaAnindyaPutri
drwxr-xr-x - hadoopuser supergroup          0 2025-02-25 08:56 /15_RhanilhamFadlillatulRa
drwxr-xr-x - hadoopuser supergroup          0 2025-02-26 08:05 /18_MulkiHakim
drwxr-xr-x - hadoopuser supergroup          0 2025-02-25 07:53 /18_ShasiaSasaSalsabyLa
drwxr-xr-x - hadoopuser supergroup          0 2025-02-26 07:44 /19_Rendy
drwxr-xr-x - hadoopuser supergroup          0 2025-03-01 09:04 /20_SukmaBagusWahasdwika
drwxr-xr-x - hadoopuser supergroup          0 2025-02-25 07:40 /21_TriyanaDewiFatmawati
drwxr-xr-x - hadoopuser supergroup          0 2025-03-02 20:30 /EntFladda
drwxr-xr-x - hadoopuser supergroup          0 2025-03-08 14:16 /MuhammadRifky
drwxr-xr-x - hadoopuser supergroup          0 2025-02-26 07:41 /RifkiFakhrudin
drwxr-xr-x - hadoopuser supergroup          0 2025-02-28 15:08 /SIB-3D
drwxr-xr-x - hadoopuser supergroup          0 2025-02-28 06:30 /TI-3A
drwxr-xr-x - hadoopuser supergroup          0 2025-02-26 03:15 /TI-3B
drwxr-xr-x - hadoopuser supergroup          0 2025-02-24 04:08 /TI-3E
drwxr-xr-x - hadoopuser supergroup          0 2025-02-26 03:36 /TI_3C
drwxr-xr-x - hadoopuser supergroup          0 2025-02-25 07:39 /TriyanaDewiFatmawati
drwxr-xr-x - hadoopuser supergroup          0 2025-02-26 08:24 /asyifa
drwxr-xr-x - hadoopuser supergroup          0 2025-02-25 04:29 /hsycoba
drwxr-xr-x - hadoopuser supergroup          0 2025-03-07 07:34 /spark-logs
drwxr-xr-x - hadoopuser supergroup          0 2025-02-26 08:39 /syifa
drwxr-xr-x - hadoopuser supergroup          0 2025-02-19 16:50 /yunhasnawa
hadoopuser@hadoop-namenode:~$
```