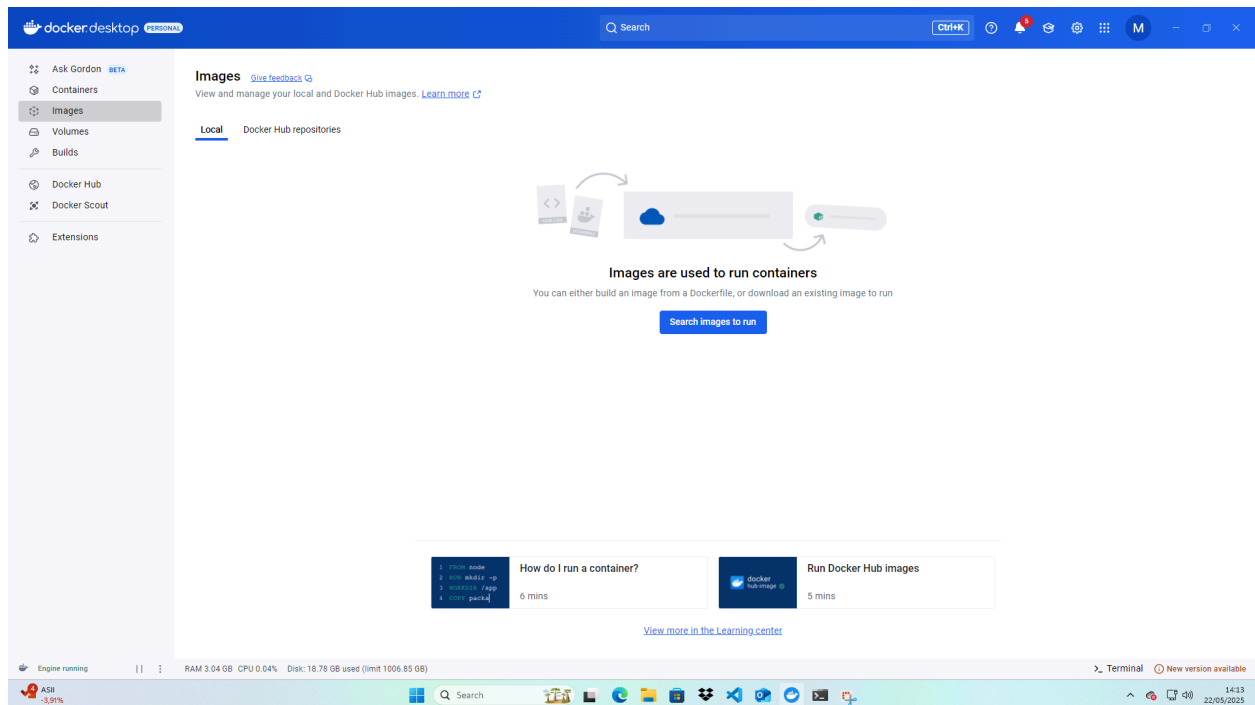


Setup docker dan konfigurasi hadoop

Install docker desktop



Konfigurasi hadoop

1. Build image docker

```
C:\Windows\System32\cmd.e X + v
Microsoft Windows [Version 10.0.26100.4061]
(c) Microsoft Corporation. All rights reserved.

C:\Users\sains\Documents\tubes-s\bigdata-hadoop>bash build.sh
[+] Building 289.6s (38/38) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 1.90kB
=> [internal] load metadata for docker.io/library/ubuntu:24.04
=> [auth] library/ubuntu:pull token for registry-1.docker.io
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load build context
=> => transferring context: 3.13kB
=> [ 1/32] FROM docker.io/library/ubuntu:24.04@sha256:6015f66923d7afbc53558d7ccffd325d43b4e249f41a6e93eef074c9505d 2.8s
=> resolve docker.io/library/ubuntu:24.04@sha256:6015f66923d7afbc53558d7ccffd325d43b4e249f41a6e93eef074c9505d 0.0s
=> sha256:6015f66923d7afbc53558d7ccffd325d43b4e249f41a6e93eef074c9505d2233 6.69kB / 6.69kB 0.0s
=> sha256:dc17125eaac86538c57da886e494a34489122fb6a3ebbb6411153d742594c2ddc 424B / 424B 0.0s
=> sha256:a0e45e2ce6e6e22e73185397d162a64fcf2f80a41c597015cab05d9a7b5913ce 2.30kB / 2.30kB 0.0s
=> sha256:0622fac788edde5d30e7bbd2688893e5452a19ff237a2e4615e2d8181321cb4e 29.72MB / 29.72MB 2.0s
=> extracting sha256:0622fac788edde5d30e7bbd2688893e5452a19ff237a2e4615e2d8181321cb4e 0.7s
=> [ 2/32] RUN apt-get update && apt-get -y install sudo adduser 17.5s
=> [ 3/32] RUN adduser --disabled-password --gecos '' docker 0.4s
=> [ 4/32] RUN adduser docker sudo 0.5s
=> [ 5/32] RUN echo '%sudo ALL=(ALL) NOPASSWD:ALL' >> /etc/sudoers 0.5s
=> [ 6/32] RUN sudo apt-get -y install software-properties-common 76.6s
=> [ 7/32] RUN sudo add-apt-repository ppa:openjdk-r/ppa 16.1s
=> [ 8/32] RUN sudo apt-get update 1.8s
=> [ 9/32] RUN apt-get -y install openjdk-8-jdk 106.3s
=> [10/32] RUN ln -s /usr/lib/jvm/java-1.8.0-openjdk-amd64/ /usr/lib/jvm/java-1.8.0 0.2s
=> [11/32] RUN apt -y install vim 9.1s
```

2. Menjalankan container

```
C:\Users\sains\Documents\tubes-s\bigdata-hadoop>bash start.sh
e519c20be8f55e418cb0f22f9417116f11dd6327ddd444eb6266a0e65630a156

C:\Users\sains\Documents\tubes-s\bigdata-hadoop>
```

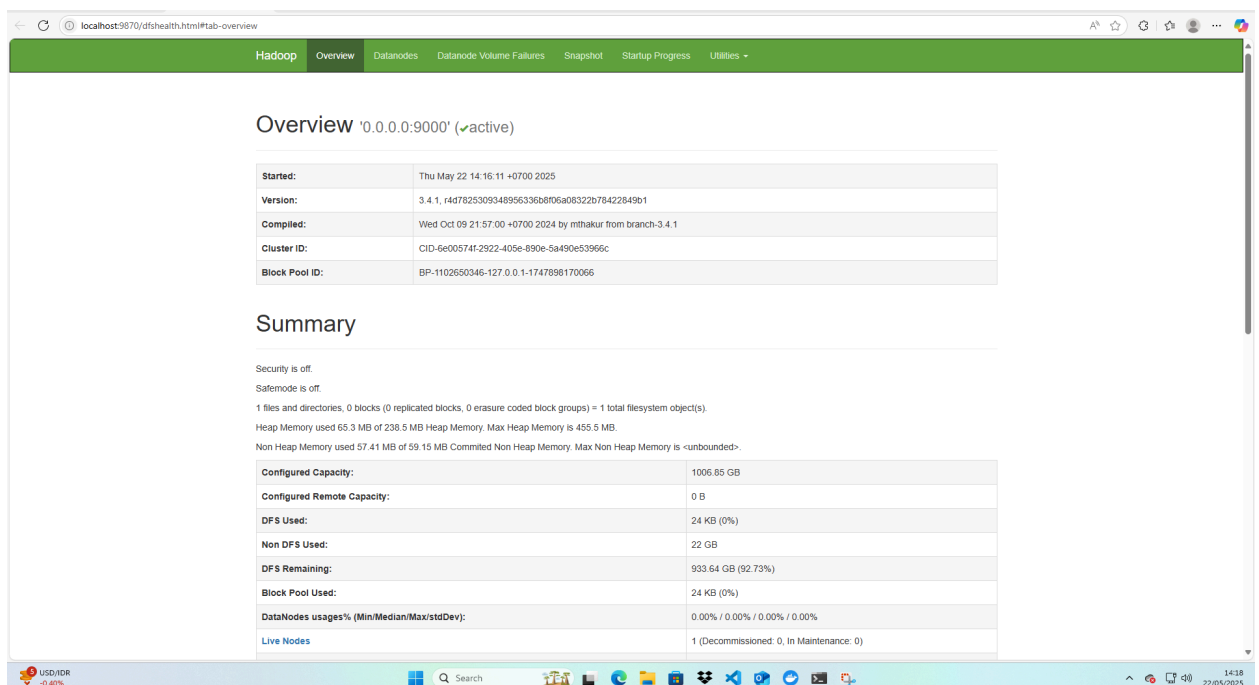
3. Status container

```
C:\Users\sains\Documents\tubes-s\bigdata-hadoop>docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
e519c20be8f5   bigdata-hadoop "/bin/bash -c 'boot..." 39 seconds ago Up 39 seconds 0.0.0.0:3306->3306/tcp, 0.0.0.0:8000->8000/tcp, 0.0.0.0:8088->8088/tcp, 0.0.0.0:9000->9000/tcp, 0.0.0.0:9866->9866/tcp, 0.0.0.0:9870->9870/tcp, 0.0.0.0:10000-10002->10000-10002/tcp, 0.0.0.0:50030->50030/tcp, 0.0.0.0:32768->1004/tcp, 0.0.0.0:32769->1006/tcp, 0.0.0.0:32770->1180/tcp, 0.0.0.0:32771->8020/tcp, 0.0.0.0:32772->8030/tcp, 0.0.0.0:32773->8031/tcp, 0.0.0.0:32774->8032/tcp, 0.0.0.0:32775->8033/tcp, 0.0.0.0:32776->8040/tcp, 0.0.0.0:32777->8041/tcp, 0.0.0.0:32778->8042/tcp, 0.0.0.0:32779->9864/tcp, 0.0.0.0:32780->9867/tcp, 0.0.0.0:32781->10020/tcp, 0.0.0.0:32782->19888/tcp, 0.0.0.0:32783->50070/tcp, 0.0.0.0:32784->50470/tcp bigdata-hadoop
C:\Users\sains\Documents\tubes-s\bigdata-hadoop>
```

4. Login ke container dan cek aktivitas hadoop

```
C:\Users\sains\Documents\tubes-s\bigdata-hadoop>bash login.sh
root@localhost:/# jps
1042 DataNode
296 NodeManager
136 ResourceManager
873 NameNode
1500 Jps
1262 SecondaryNameNode
root@localhost:/#
```

5. Hadoop namenode



Overview '0.0.0.0-9000' (✓active)

Property	Value
Started:	Thu May 22 14:16:11 +0700 2025
Version:	3.4.1, r4d7825309348956336b806a06322b78422849b1
Compiled:	Wed Oct 09 21:57:00 +0700 2024 by mthakur from branch-3.4.1
Cluster ID:	CID-6e00574f-2922-405e-890e-5a490e53966c
Block Pool ID:	BP-1102650346-127.0.0.1-1747698170066

Summary

Security is off.
Safemode is off.
1 files and directories, 0 blocks (0 replicated blocks, 0 erasure coded block groups) = 1 total filesystem object(s).
Heap Memory used 65.3 MB of 238.5 MB Heap Memory. Max Heap Memory is 455.5 MB.
Non Heap Memory used 57.41 MB of 59.15 MB Committed Non Heap Memory. Max Non Heap Memory is <unbounded>.

Property	Value
Configured Capacity:	1006.85 GB
Configured Remote Capacity:	0 B
DFS Used:	24 KB (0%)
Non DFS Used:	22 GB
DFS Remaining:	933.64 GB (92.73%)
Block Pool Used:	24 KB (0%)
DataNodes usages% (Min/Median/Max/stdDev):	0.00% / 0.00% / 0.00% / 0.00%
Live Nodes	1 (Decommissioned: 0, In Maintenance: 0)

6. Hadoop cluster manager

The screenshot displays the Hadoop cluster manager web interface in a browser window. The address bar shows 'localhost:8008/cluster'. The interface features the Hadoop logo and a navigation menu on the left with options like 'Cluster', 'About', 'Nodes', 'Node Labels', 'Applications', and 'Tools'. The main content area is titled 'All Applications' and contains several summary tables and a detailed application list.

Cluster Metrics

Apps Submitted	Apps Pending	Apps Running	Apps Completed	Containers Running	Used Resources	Total Resources	Reserved Resources
0	0	0	0		<memory: 0 B, vCores: 0>	<memory: 8 GB, vCores: 8>	<memory: 0 B, vCores: 0>

Cluster Nodes Metrics

Active Nodes	Decommissioning Nodes	Decommissioned Nodes	Lost Nodes	Unhealthy Nodes
0				

Scheduler Metrics

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

Applications Table

ID	User	Name	Application Type	Application Tags	Queue	Application Priority	StartTime	Launch Time	FinishTime	State	FinalStatus	Running Containers	Allocated CPU vCores	Allocated Memory MB	Allocated GPUs	Reserved CPU vCores
No data available in table																

Showing 0 to 0 of 0 entries