

# HADOOP MAPREDUCE - WORD COUNT

Kelompok 7 Sistem Basis Data-02

# TOPIK PEMBAHASAN

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WORD COUNT

01

# INSTALLING HADOOP

Instalasi dilakukan di  
Operating System Windows

# Prerequisites

- **Java 8** (Recommended) / Java 11
  - (<https://www.oracle.com/id/java/technologies/javase/javase8-archive-downloads.html>)
- Hadoop
  - (<https://archive.apache.org/dist/hadoop/common/>)
- Additional Binaries (Sesuaikan versi Hadoop, binary terbaru hanya sampai v3.2.2)
  - (<https://github.com/cdarlint/winutils>)
  - (<https://github.com/styxnanda/winutils>)

# Download Prerequisites

Java SE Development Kit 8u202		
This software is licensed under the Oracle Binary Code License Agreement for Java SE Platform Products		
Product / File Description	File Size	Download
Linux ARM v6/v7 Soft Float ABI	72.86 MB	<a href="#"> jdk-8u202-linux-arm32-vfp-hflt.tar.gz</a>
Linux ARM v6/v7 Soft Float ABI	69.75 MB	<a href="#"> jdk-8u202-linux-arm64-vfp-hfltar.gz</a>

<a href="#"> hadoop-3.2.2-src.tar.gz.asc</a>	2021-01-13 18:48	655
<a href="#"> hadoop-3.2.2-src.tar.gz.sha512</a>	2021-01-13 18:48	154
<a href="#"> hadoop-3.2.2.tar.gz</a>	2021-01-13 18:48	377M
<a href="#"> hadoop-3.2.2.tar.gz.asc</a>	2021-01-13 18:48	833

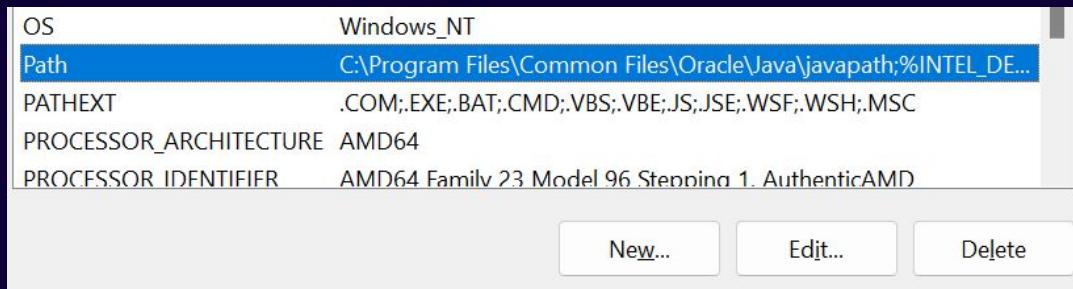
<a href="#"> hadoop-3.2.1/bin</a>	add 321 winutils
<a href="#"> hadoop-3.2.2/bin</a>	compile hadoop-3.2.2
<a href="#"> README.md</a>	compile hadoop-3.2.2

# Configure System Variables JAVA\_HOME

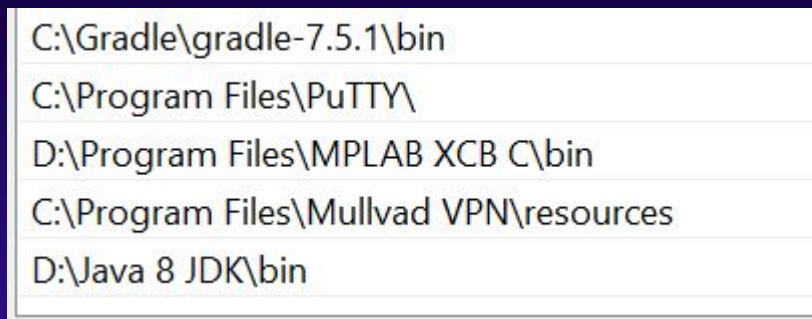
INTEL_DEV_REDIST	C:\Program Files
JAVA_HOME	D:\Java 8 JDK
KMP_DUPLICATE_LIB_OK	TRUE
MIC_LD_LIBRARY_PATH	%INTEL_DEV_REDIST

Tambahkan system variable baru bernama JAVA\_HOME dan arahkan ke instalasi Java

# Configure New Path Variable



Klik Edit

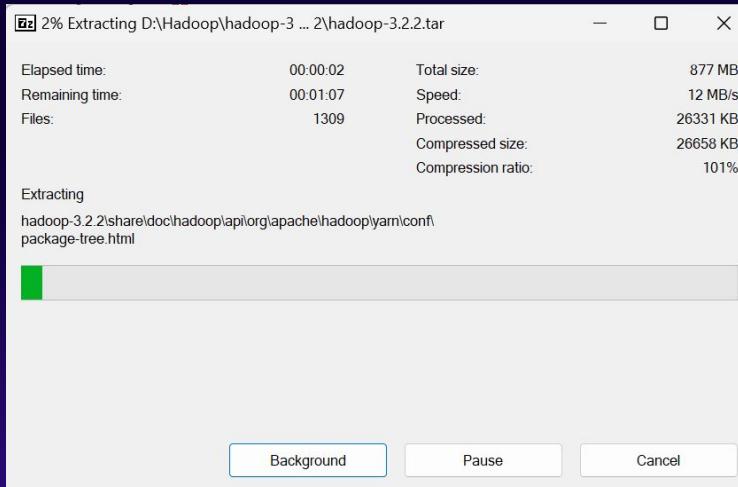


Tambahkan path baru ke direktori Java + Arahkan ke folder bin di dalamnya

```
C:\Users\Asus>java -version
java version "1.8.0_202"
Java(TM) SE Runtime Environment (build 1.8.0_202-b08)
Java HotSpot(TM) 64-Bit Server VM (build 25.202-b08, mixed mode)
```

Verifikasi Java JDK

# Extract Hadoop tar.gz File (as Admin)



	Name	Date modified	Type	Size
esia	bin	1/3/2021 5:11 PM	File folder	
	etc	1/3/2021 4:29 PM	File folder	
	include	1/3/2021 5:11 PM	File folder	
	lib	1/3/2021 5:11 PM	File folder	
	libexec	1/3/2021 5:11 PM	File folder	
	sbin	1/3/2021 4:29 PM	File folder	
	share	1/3/2021 5:46 PM	File folder	
1	hadoop-3.2.2.tar.gz	5/8/2023 1:10 PM	WinRAR archive	386,181 KB
	LICENSE.txt	12/5/2020 10:09 PM	Text Document	148 KB
	NOTICE.txt	12/5/2020 10:09 PM	Text Document	22 KB
	README.txt	12/5/2020 10:09 PM	Text Document	2 KB

# Edit core-site.xml (/etc/hadoop)

```
core-site.xml
1  <?xml version="1.0" encoding="UTF-8"?>
2  <?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
3  <!--
4      Licensed under the Apache License, Version 2.0 (the "License");
5      you may not use this file except in compliance with the License.
6      You may obtain a copy of the License at
7
8          http://www.apache.org/licenses/LICENSE-2.0
9
10     Unless required by applicable law or agreed to in writing, software
11     distributed under the License is distributed on an "AS IS" BASIS,
12     WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
13     See the License for the specific language governing permissions and
14     limitations under the License. See accompanying LICENSE file.
15 -->
16
17 <!-- Put site-specific property overrides in this file. -->
18
19 <configuration>
20 </configuration>
21 |
```

```
core-site.xml
1  <?xml version="1.0" encoding="UTF-8"?>
2  <?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
3  <!--
4      Licensed under the Apache License, Version 2.0 (the "License");
5      you may not use this file except in compliance with the License.
6      You may obtain a copy of the License at
7
8          http://www.apache.org/licenses/LICENSE-2.0
9
10     Unless required by applicable law or agreed to in writing, software
11     distributed under the License is distributed on an "AS IS" BASIS,
12     WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
13     See the License for the specific language governing permissions and
14     limitations under the License. See accompanying LICENSE file.
15 -->
16
17 <!-- Put site-specific property overrides in this file. -->
18
19 <configuration>
20   <property>
21     <name>fs.defaultFS</name>
22     <value>hdfs://localhost:9000</value>
23   </property>
24 </configuration>
25 |
```

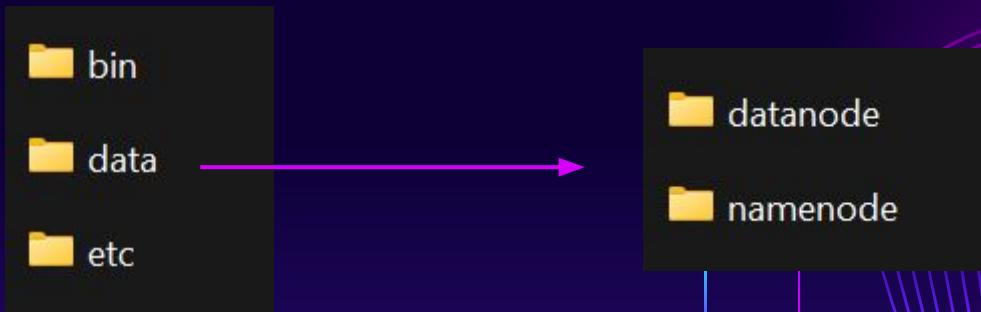
# Edit mapred-site.xml (/etc/hadoop)

```
mapred-site.xml
1  <?xml version="1.0"?>
2  <?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
3  <!--
4      Licensed under the Apache License, Version 2.0 (the "License");
5      you may not use this file except in compliance with the License.
6      You may obtain a copy of the License at
7
8          http://www.apache.org/licenses/LICENSE-2.0
9
10     Unless required by applicable law or agreed to in writing, software
11     distributed under the License is distributed on an "AS IS" BASIS,
12     WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
13     See the License for the specific language governing permissions and
14     limitations under the License. See accompanying LICENSE file.
15 -->
16
17 <!-- Put site-specific property overrides in this file. -->
18
19 <configuration>
20   <property>
21     <name>mapreduce.framework.name</name>
22     <value>yarn</value>
23   </property>
24 </configuration>
25
```

# Edit yarn-site.xml (/etc/hadoop)

```
yarn-site.xml
1  <?xml version="1.0"?>
2  <!--
3      Licensed under the Apache License, Version 2.0 (the "License");
4      you may not use this file except in compliance with the License.
5      You may obtain a copy of the License at
6
7          http://www.apache.org/licenses/LICENSE-2.0
8
9      Unless required by applicable law or agreed to in writing, software
10     distributed under the License is distributed on an "AS IS" BASIS,
11     WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
12     See the License for the specific language governing permissions and
13     limitations under the License. See accompanying LICENSE file.
14 -->
15 <configuration>
16   <!-- Site specific YARN configuration properties -->
17   <property>
18     <name>yarn.nodemanager.aux-services</name>
19     <value>mapreduce_shuffle</value>
20   </property>
21
22   <property>
23     <name>yarn.nodemanager.mapreduce.shuffle.class</name>
24     <value>org.apache.hadoop.mapred.ShuffleHandler</value>
25   </property>
26
27 </configuration>
28
```

# Create 'data' Directory and Sub-Directories



# Edit hdfs-site.xml (\etc\hadoop)

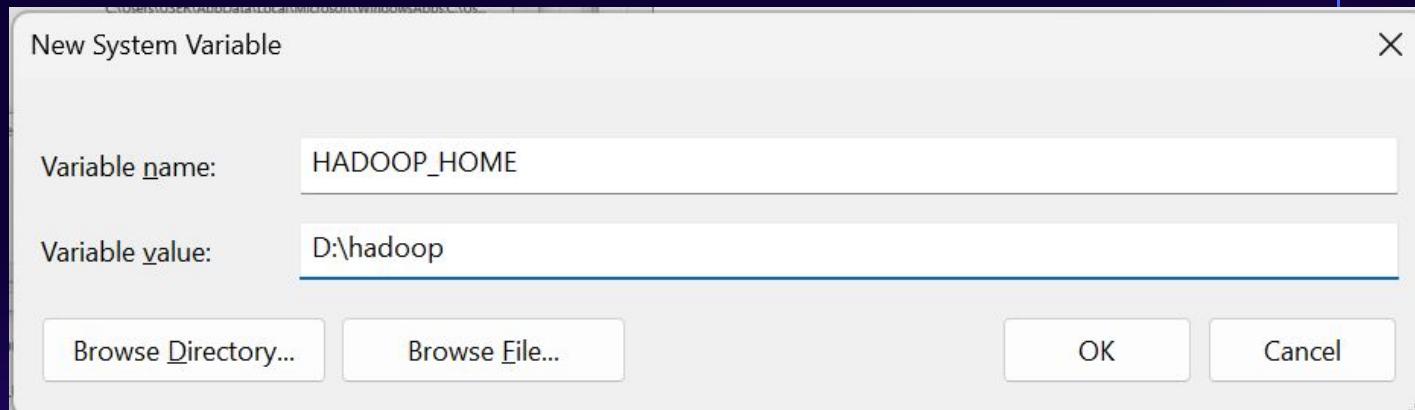
```
hdfs-site.xml
1  <?xml version="1.0" encoding="UTF-8"?>
2  <?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
3  <!--
4      Licensed under the Apache License, Version 2.0 (the "License");
5      you may not use this file except in compliance with the License.
6      You may obtain a copy of the License at
7
8          http://www.apache.org/licenses/LICENSE-2.0
9
10     Unless required by applicable law or agreed to in writing, software
11     distributed under the License is distributed on an "AS IS" BASIS,
12     WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
13     See the License for the specific language governing permissions and
14     limitations under the License. See accompanying LICENSE file.
15 -->
16
17 <!-- Put site-specific property overrides in this file. -->
18
19 <configuration>
20   <property>
21     <name>dfs.replication</name>
22     <value>1</value>
23   </property>
24
25   <property>
26     <name>dfs.namenode.name.dir</name>
27     <value>D:\hadoop\data\namenode</value>
28   </property>
29
30   <property>
31     <name>dfs.datanode.name.dir</name>
32     <value>D:\hadoop\data\datanode</value>
33   </property>
34 </configuration>
35
```

# Edit.hadoop-env.cmd

```
hadoop-env.cmd
11  @rem Unless required by applicable law or agreed to in writing, software
12  @rem distributed under the License is distributed on an "AS IS" BASIS,
13  @rem WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
14  @rem See the License for the specific language governing permissions and
15  @rem limitations under the License.
16
17  @rem Set Hadoop-specific environment variables here.
18
19  @rem The only required environment variable is JAVA_HOME. All others are
20  @rem optional. When running a distributed configuration it is best to
21  @rem set JAVA_HOME in this file, so that it is correctly defined on
22  @rem remote nodes.
23
24  @rem The java implementation to use. Required.
25  set JAVA_HOME=D:"\Java 8 JDK"
```

Pastikan mengarah lengkap ke direktori Java

# Create HADOOP\_HOME System Variable



Arahkan ke direktori Hadoop

HADOOP_HOME	D:\hadoop
INTEL_DEV_REDIST	C:\Program Files (x86)\Common Files\Intel\Shared Libraries\
JAVA_HOME	D:\Java 8 JDK

# Create Path Variable for /bin and /sbin

```
D:\Program Files\MPLAB XCB C\bin  
C:\Program Files\Mullvad VPN\resources  
D:\Java 8 JDK\bin  
D:\hadoop\bin  
D:\hadoop\sbin
```

# Download Additional Binaries (Suit Ver.)

The screenshot shows a GitHub repository page for 'styxnanda/winutils'. The repository is public and has been forked from 'cdarlint/winutils'. The 'Code' tab is selected, showing a single commit from 'changdelin' that adds Hadoop binaries. The commit message is 'add 272', the author is 'd018bd9', and it was made on Sep 29, 2021, with 9 commits. The commit details show additions for 'hadoop-2.6.1/bin', 'hadoop-2.6.5/bin', 'hadoop-2.7.2/bin', 'hadoop-2.7.3/bin', 'hadoop-2.7.4/bin', and 'hadoop-2.7.6/bin'. The commit was made 2 years ago. The repository has 1.9k forks. The 'About' section describes it as providing 'winutils.exe hadoop.dll and hdfs.dll binaries for hadoop windows'. The 'Readme' section is present but empty. There are no releases published.

This branch is up to date with cdarlint/winutils:master.

changdelin add 272 d018bd9 on Sep 29, 2021 9 commits

hadoop-2.6.1/bin add 261 2 years ago

hadoop-2.6.5/bin fixed exe and lib 265-312 4 years ago

hadoop-2.7.2/bin add 272 2 years ago

hadoop-2.7.3/bin fixed exe and lib 265-312 4 years ago

hadoop-2.7.4/bin fixed exe and lib 265-312 4 years ago

hadoop-2.7.6/bin fixed exe and lib 265-312 4 years ago

winutils.exe hadoop.dll and hdfs.dll  
binaries for hadoop windows

Readme

0 stars

0 watching

1.9k forks

No releases published

Create a new release

Download folder dengan versi Hadoop yang sesuai. Update terakhir baru sampai **3.2.2**

# Move the Binaries to Local /bin

Name	Date modified	Type	Size
container-executor	1/3/2021 4:54 PM	File	433 KB
hadoop	5/8/2023 12:54 PM	File	9 KB
hadoop.cmd	5/8/2023 12:54 PM	Windows Command ...	12 KB
hadoop.dll	5/8/2023 12:54 PM	Application extension	94 KB
hadoop.exp	5/8/2023 12:54 PM	Exports Library File	25 KB
hadoop.lib	5/8/2023 12:54 PM	Object File Library	41 KB
hadoop.pdb	5/8/2023 12:54 PM	VisualStudio.pdb:340...	820 KB
hdfs	5/8/2023 12:54 PM	File	12 KB
hdfs.cmd	5/8/2023 12:54 PM	Windows Command ...	8 KB
libwinutils.lib	5/8/2023 12:54 PM	Object File Library	1,561 KB
mapred	5/8/2023 12:54 PM	File	7 KB
mapred.cmd	5/8/2023 12:54 PM	Windows Command ...	7 KB
oom-listener	1/3/2021 4:54 PM	File	29 KB
test-container-executor	1/3/2021 4:54 PM	File	474 KB

Overwrite file yang sama (replace)

# Verify Hadoop is Installed Correctly

```
C:\Users\Asus>hadoop version
Hadoop 3.2.2
Source code repository Unknown -r 7a3bc90b05f257c8ace2f76d74264906f0f7a932
Compiled by hexiaoqiao on 2021-01-03T09:26Z
Compiled with protoc 2.5.0
From source with checksum 5a8f564f46624254b27f6a33126ff4
This command was run using /D:/hadoop/share/hadoop/common/hadoop-common-3.2.2.jar
```

# Format the namenode Folder

```
C:\Users\Asus>hdfs namenode -format
```

```
***** 0 bytes saved in 0 seconds .
2023-05-08 20:18:21,574 INFO namenode.NNStorageRetentionManager: Going to retain 1 images with txid >= 0
2023-05-08 20:18:21,581 INFO namenode.FSImage: FSImageSaver clean checkpoint: txid=0 when meet shutdown.
2023-05-08 20:18:21,582 INFO namenode.NameNode: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down NameNode at LAPTOP-K086D7F9/192.168.152.1
*****
```

The background features a dark blue gradient with a central decorative element. This element consists of several thin, light blue wavy lines forming a large, organic shape. Superimposed on these wavy lines are numerous small, vertical cyan lines ending in small cyan dots, resembling a scatter plot or a network graph.

02

# RUNNING HADOOP

Menjalankan Hadoop

# Run Hadoop

```
start-all.cmd  
start-all.sh  
start-balancer.sh  
start-dfs.cmd  
start-dfs.sh  
start-secure-dns.sh  
start-yarn.cmd  
start-yarn.sh  
stop-all.cmd
```

Untuk memulai Hadoop dan daemon-nya, jalankan **start-all.cmd**.

Untuk memberhentikan Hadoop dan daemon-nya, jalankan **stop-all.cmd**.

Jika start-all.cmd dan stop-all.cmd sudah deprecated, jalankan **start-dfs.cmd** lalu **start-yarn.cmd**.

# Check the GUI and Resource Manager

Namenode information

<http://localhost:9870/dfshealth.html#tab-overview>

Hadoop Overview Datanodes Datanode Volume Failures Snapshot Startup Progress Utilities

### Overview 'localhost:9000' (active)

Started: Mon May 08 20:24:39 +0700 2023

Version: 3.2.2, r743bcb900525c8ace2f76d74264906bf07a932

Compiled: Sun Jan 03 16:26:00 +0700 2021 by hexiaoqiao from branch-3.2.2

Cluster ID: CID-c783cf1-4e8c-420b-80cb-fb1ee7c9318

Block Pool ID: BP-1211125457-192.168.152.1-1683551901360

### 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 63.13 MB of 248 MB Heap Memory. Max Heap Memory is 889 MB.

Non Heap Memory used 50.19 MB of 51.52 MB Committed Non Heap Memory. Max Non Heap Memory is <unbounded>.

localhost:9870

Namenode information

All Applications

<http://localhost:8088/cluster>

### All Applications

hadoop

Cluster Metrics

Apps Submitted	Apps Pending	Apps Running	Apps Completed	Containers Running	Used Resources	Total Resources
0	0	0	0	0	<memory:0, vCores:0>	<memory:8192, vCores:8>

Cluster Nodes Metrics

Active Nodes	Decommissioning Nodes	Decommissioned Nodes	Lost Nodes	Unhealthy Nodes
1	0	0	0	0

Scheduler Metrics

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

Show 20 entries

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

Showing 0 to 0 of 0 entries

localhost:8088

# Checking the Running Hadoop Daemons

```
D:\hadoop\sbin>JPS  
20416 NodeManager  
25684 DataNode  
12488 ResourceManager  
14232 Jps  
18136 NameNode
```

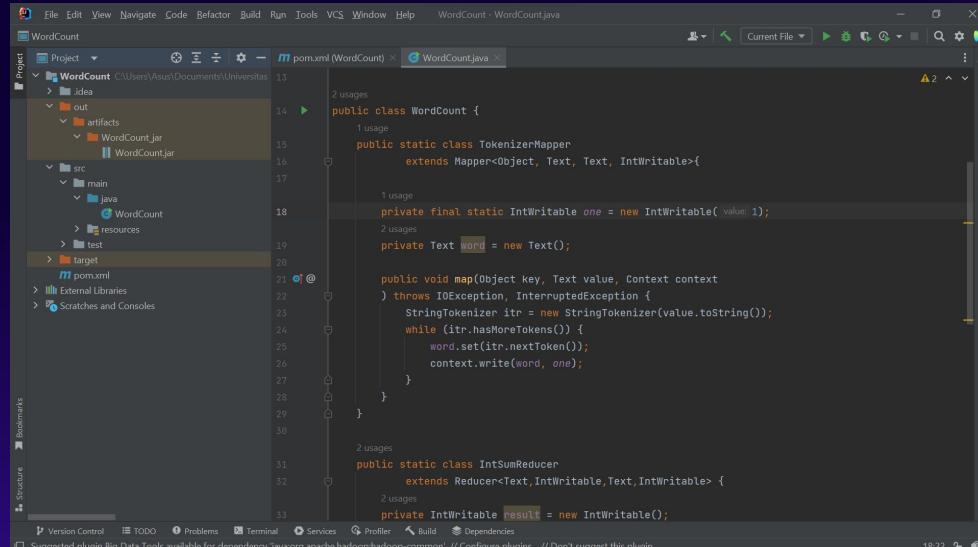
# 03

## WORD COUNT

Program Menghitung jumlah  
kata via MapReduce

# Writing the WordCount Program

Pastikan menggunakan Maven pada IDE. Dependency apache hadoop hanya ada pada Maven.



The screenshot shows an IDE interface with the following details:

- Project:** WordCount
- File:** pom.xml (WordCount) and WordCount.java
- Structure:** Project tree showing src/main/java/WordCount.java and pom.xml.
- Code View:** Content of WordCount.java:

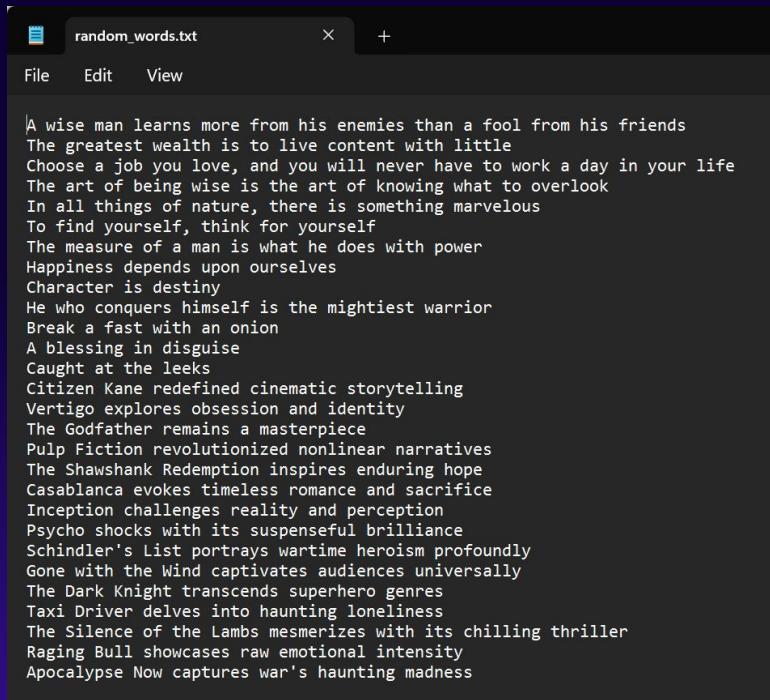
```
public class WordCount {
    public static class TokenizerMapper
        extends Mapper<Object, Text, Text, IntWritable>{
        private final static IntWritable one = new IntWritable(1);
        private Text word = new Text();
        public void map(Object key, Text value, Context context
            ) throws IOException, InterruptedException {
            StringTokenizer itr = new StringTokenizer(value.toString());
            while (itr.hasMoreTokens()) {
                word.set(itr.nextToken());
                context.write(word, one);
            }
        }
    }
    public static class IntSumReducer
        extends Reducer<Text, IntWritable, Text, IntWritable> {
        private IntWritable result = new IntWritable();
        protected void reduce(Text key, Iterable<IntWritable> values,
            Context context) throws IOException, InterruptedException {
            int sum = 0;
            for (IntWritable val : values) {
                sum += val.get();
            }
            result.set(sum);
            context.write(key, result);
        }
    }
}
```
- Toolbars and Menus:** File, Edit, View, Navigate, Code, Refactor, Build, Run, Tools, VCS, Window, Help.
- Status Bar:** Suggested plugin Big Data Tools available for dependency 'java.org.apache.hadoop:hadoop-common': // Configure plugins... // Don't suggest this plugin.

Program diperoleh dari Example 1.0. Available:  
<https://hadoop.apache.org/docs/stable/hadoop-mapreduce-client/hadoop-mapreduce-client-core/MapReduceTutorial.html>

# Build the Project into JAR

📁 WC	5/8/2023 9:23 PM	File folder
📄 random_words.txt	5/8/2023 9:15 PM	Text Document 2 KB
⚙️ WordCount.jar	5/8/2023 9:40 PM	Executable Jar File 62,440 KB

# Prepare the Input Text File



```
A wise man learns more from his enemies than a fool from his friends
The greatest wealth is to live content with little
Choose a job you love, and you will never have to work a day in your life
The art of being wise is the art of knowing what to overlook
In all things of nature, there is something marvelous
To find yourself, think for yourself
The measure of a man is what he does with power
Happiness depends upon ourselves
Character is destiny
He who conquers himself is the mightiest warrior
Break a fast with an onion
A blessing in disguise
Caught at the leeks
Citizen Kane redefined cinematic storytelling
Vertigo explores obsession and identity
The Godfather remains a masterpiece
Pulp Fiction revolutionized nonlinear narratives
The Shawshank Redemption inspires enduring hope
Casablanca evokes timeless romance and sacrifice
Inception challenges reality and perception
Psycho shocks with its suspenseful brilliance
Schindler's List portrays wartime heroism profoundly
Gone with the Wind captivates audiences universally
The Dark Knight transcends superhero genres
Taxi Driver delves into haunting loneliness
The Silence of the Lambs mesmerizes with its chilling thriller
Raging Bull showcases raw emotional intensity
Apocalypse Now captures war's haunting madness
```

# Moving Text File to Input Directory HDFS

```
D:\hadoop\sbin>hadoop fs -mkdir /input_dir  
  
D:\hadoop\sbin>hadoop fs -put C:\Users\Asus\Documents\Universitas Indonesia\Teknik Komputer\Semester 4\Sistem Basis Data  
02 dan Praktikum\9 Hadoop\random_words.txt /input_dir  
put: `C:/Users/Asus/Documents/Universitas': No such file or directory  
put: `Indonesia/Teknik': No such file or directory  
put: `Komputer/Semester': No such file or directory  
put: `4/Sistem': No such file or directory  
put: `Basis': No such file or directory  
put: `Data': No such file or directory  
put: `02': No such file or directory  
put: `dan': No such file or directory  
put: `Praktikum/9': No such file or directory  
put: `Hadoop/random_words.txt': No such file or directory  
  
D:\hadoop\sbin>  
D:\hadoop\sbin>hadoop fs -put "C:\Users\Asus\Documents\Universitas Indonesia\Teknik Komputer\Semester 4\Sistem Basis Dat  
a 02 dan Praktikum\9 Hadoop\random_words.txt" /input_dir  
  
D:\hadoop\sbin>
```

hadoop fs -mkdir /input_directory	Membuat folder input pada HDFS
hadoop fs -put /path/to/file.txt /input_directory	Meletakkan file text ke folder input HDFS

# Verify Text File is in HDFS

The screenshot shows the Apache Hadoop 3.3.5 Web UI interface. The title bar includes tabs for "Apache Hadoop 3.3.5 - M", "Word count MapReduce", "How to Run Hadoop word", "Browsing HDFS", "All Applications", and others. The main content area is titled "Browse Directory" and displays the path "/input\_dir". A search bar at the top right contains the URL "http://localhost:9870/explorer.html#/input\_dir". Below the search bar, there are filters for "Show 25 entries" and a "Search:" field. The table below lists one entry: "random\_words.txt" owned by "Asus" and group "supergroup", with a size of 1.27 KB, last modified on May 08 22:24, replication factor of 1, and block size of 128 MB. At the bottom, it says "Showing 1 to 1 of 1 entries" and includes navigation buttons for "Previous" and "Next". The footer of the page reads "Hadoop, 2021."

	Permission	Owner	Group	Size	Last Modified	Replication	Block Size	Name
<input type="checkbox"/>	-rw-r--r--	Asus	supergroup	1.27 KB	May 08 22:24	1	128 MB	random_words.txt

# Executing WordCount Program

```
PS D:\Java Codes\WC\WordCount> hadoop jar target\WordCount-1.0-SNAPSHOT.jar org.satyaananda.WordCount /input_dir /output_dir
2023-05-09 13:09:04,369 INFO client.RMProxy: Connecting to ResourceManager at /0.0.0.0:8032
2023-05-09 13:09:06,471 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed. Implement the Tool interface and execute your application with ToolRunner to remedy this.
2023-05-09 13:09:06,499 INFO mapreduce.JobResourceUploader: Disabling Erasure Coding for path: /tmp/hadoop-yarn/staging/Asus/.staging/job_1683611810095_0001
2023-05-09 13:09:07,488 INFO input.FileInputFormat: Total input files to process : 1
2023-05-09 13:09:07,638 INFO mapreduce.JobSubmitter: number of splits:1
2023-05-09 13:09:07,921 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1683611810095_0001
2023-05-09 13:09:07,925 INFO mapreduce.JobSubmitter: Executing with tokens: []
2023-05-09 13:09:08,378 INFO conf.Configuration: resource-types.xml not found
2023-05-09 13:09:08,379 INFO resource.ResourceUtils: Unable to find 'resource-types.xml'.
2023-05-09 13:09:09,014 INFO impl.YarnClientImpl: Submitted application application_1683611810095_0001
2023-05-09 13:09:09,115 INFO mapreduce.Job: The url to track the job: http://LAPTOP-K086D7F9:8088/proxy/application\_1683611810095\_0001/
2023-05-09 13:09:09,117 INFO mapreduce.Job: Running job: job_1683611810095_0001
2023-05-09 13:09:32,559 INFO mapreduce.Job: Job job_1683611810095_0001 running in uber mode : false
2023-05-09 13:09:32,561 INFO mapreduce.Job: map 0% reduce 0%
2023-05-09 13:09:41,774 INFO mapreduce.Job: map 100% reduce 0%
2023-05-09 13:09:52,065 INFO mapreduce.Job: map 100% reduce 100%
```

# Check the Output

ID	User	Name	Application Type	Queue	Application Priority	StartTime	LaunchTime	FinishTime	State	FinalStatus	Running Containers	Allocated CPU Vcores	Allocated Memory MB
application_1683611810095_0001	Asus	word count	MAPREDUCE	default	0	Tue May 9 13:09:08 +0700 2023	Tue May 9 13:09:10 +0700 2023	Tue May 9 13:09:56 +0700 2023	FINISHED	SUCCEEDED	N/A	N/A	N/A

Showing 1 to 1 of 1 entries

```
2023-05-09 13:09:32,559 INFO mapreduce.Job: Job job_1683611810095_0001 running in uber mode : false
2023-05-09 13:09:32,561 INFO mapreduce.Job: map 0% reduce 0%
2023-05-09 13:09:41,774 INFO mapreduce.Job: map 100% reduce 0%
2023-05-09 13:09:52,065 INFO mapreduce.Job: map 100% reduce 100%
2023-05-09 13:09:58,309 INFO mapreduce.Job: Job job_1683611810095_0001 completed successfully
2023-05-09 13:09:58,542 INFO mapreduce.Job: Counters: 54
```

File System Counters

# Check the Output

<input type="checkbox"/>	Permission	<input type="checkbox"/>	Owner	<input type="checkbox"/>	Group	<input type="checkbox"/>	Size	<input type="checkbox"/>	Last Modified	<input type="checkbox"/>	Replication	<input type="checkbox"/>	Block Size	<input type="checkbox"/>	Name	<input type="checkbox"/>
<input type="checkbox"/>	-rw-r--r--	<a href="#">Asus</a>	<a href="#">supergroup</a>	<input type="checkbox"/>	0 B	<input type="checkbox"/>	May 09 13:09	<input type="checkbox"/>		<input type="checkbox"/>	1	<input type="checkbox"/>	128 MB	<input type="checkbox"/>	_SUCCESS	
<input type="checkbox"/>	-rw-r--r--	<a href="#">Asus</a>	<a href="#">supergroup</a>	<input type="checkbox"/>	1.38 KB	<input type="checkbox"/>	May 09 13:09	<input type="checkbox"/>		<input type="checkbox"/>	1	<input type="checkbox"/>	128 MB	<input type="checkbox"/>	part-r-00000	

Showing 1 to 2 of 2 entries

Previous **1** Next

# Check the Output

```
D:\hadoop\sbin>hadoop fs -cat /output_dir/part-r-00000
A          2
Apocalypse   1
Break        1
Build        1
Casablanca   1
Caught       1
Character    1
Choose       1
Citizen      1
Dark         1
Driver       1
Fiction      1
Godfather    1
Gone         1
Happiness    1
He           1
In            1
Inception    1
Kane         1
Knight        1
Lambs        1
List          1
Now           1
Psycho        1
Pulp          1
Raging        1
Redemption   1
Schindler's  1
Shawshank    1
Silence      1
Taxi          1
The           7
To            1
Vertigo       1
Wind          1
a              6
all           1
```

```
storytelling   1
superhero     1
suspenseful   1
than          1
the           5
there         1
things        1
think         1
thriller      1
timeless      1
to             3
transcends    1
universally   1
upon          1
war's          1
warrior       1
wartime       1
wealth        1
what          2
who           1
will          1
wise          2
with          6
work          1
you           2
your          1
yourself      1
yourself,     1
```

```
D:\hadoop\sbin>
```

