HDFS Architecture
Part - 1

HDFS

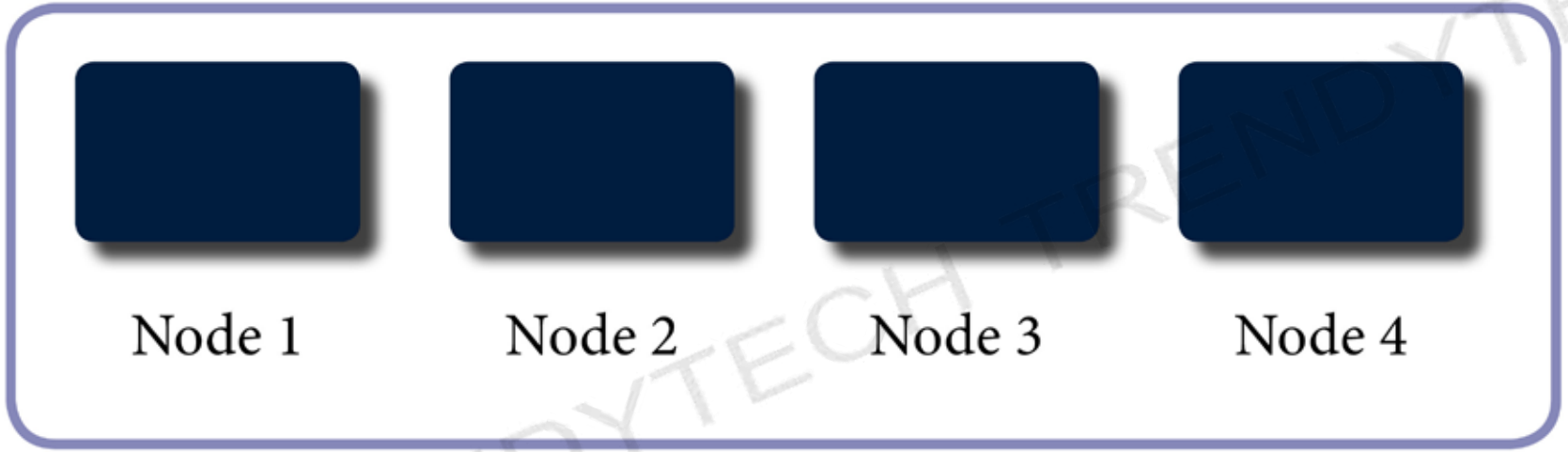
Hadoop Distributed File System

by Sumit Mittal

HDFS ARCHITECTURE

TRENDYTECH TRENDYTECH TRENDYTECH

HDFS ARCHITECTURE

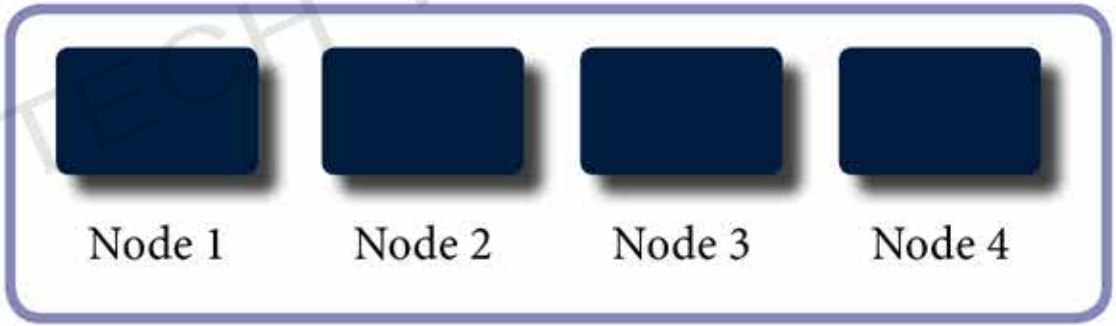


4 Node Cluster

TRENDYTECH TRENDYTECH TRENDYTECH

HDFS ARCHITECTURE

File 1
(500 mb)



4 node Cluster

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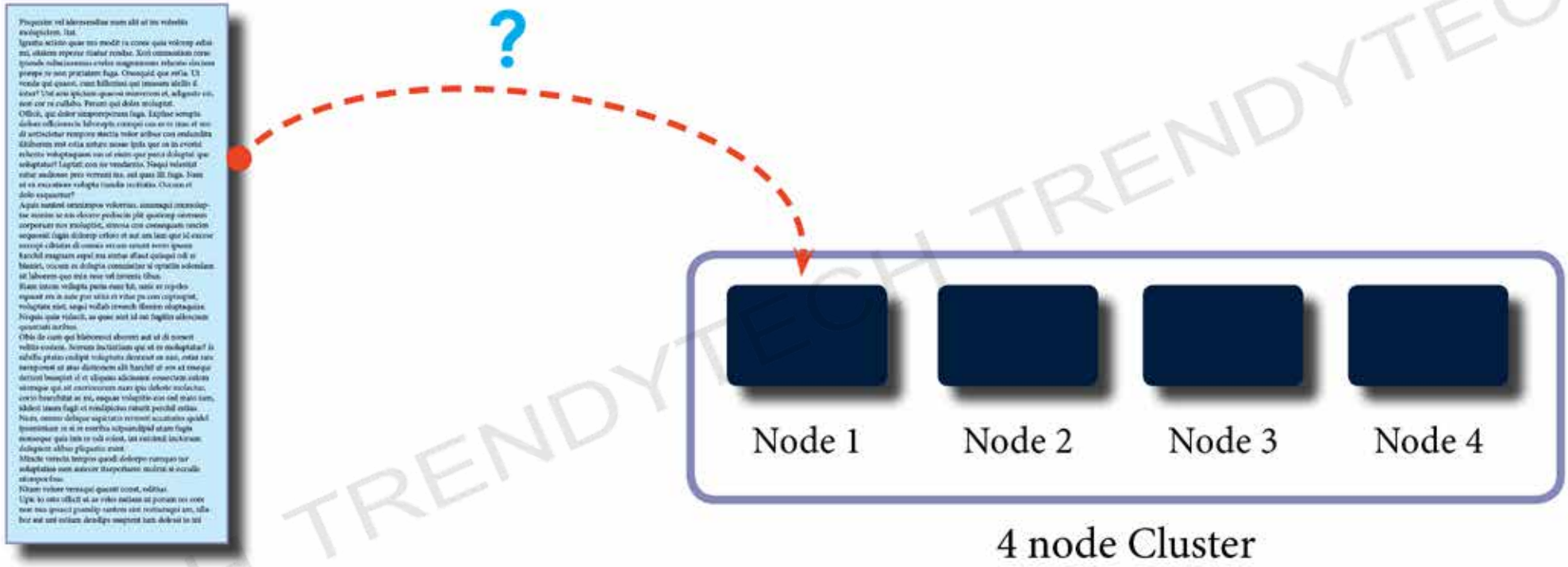

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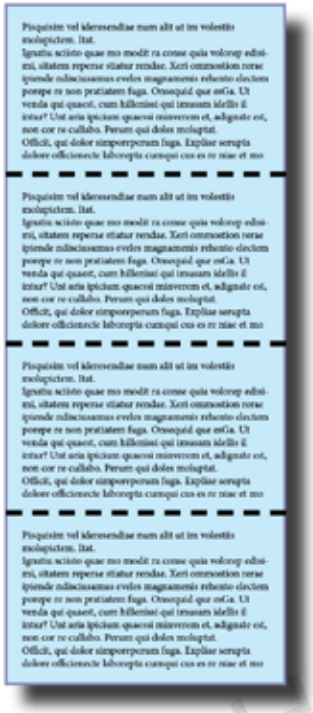


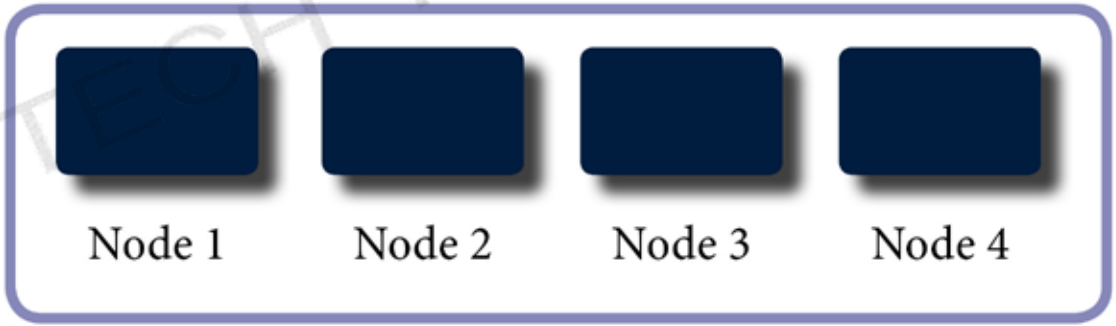
block 1

block 2

block 3

block 4

File 1
(500 mb)



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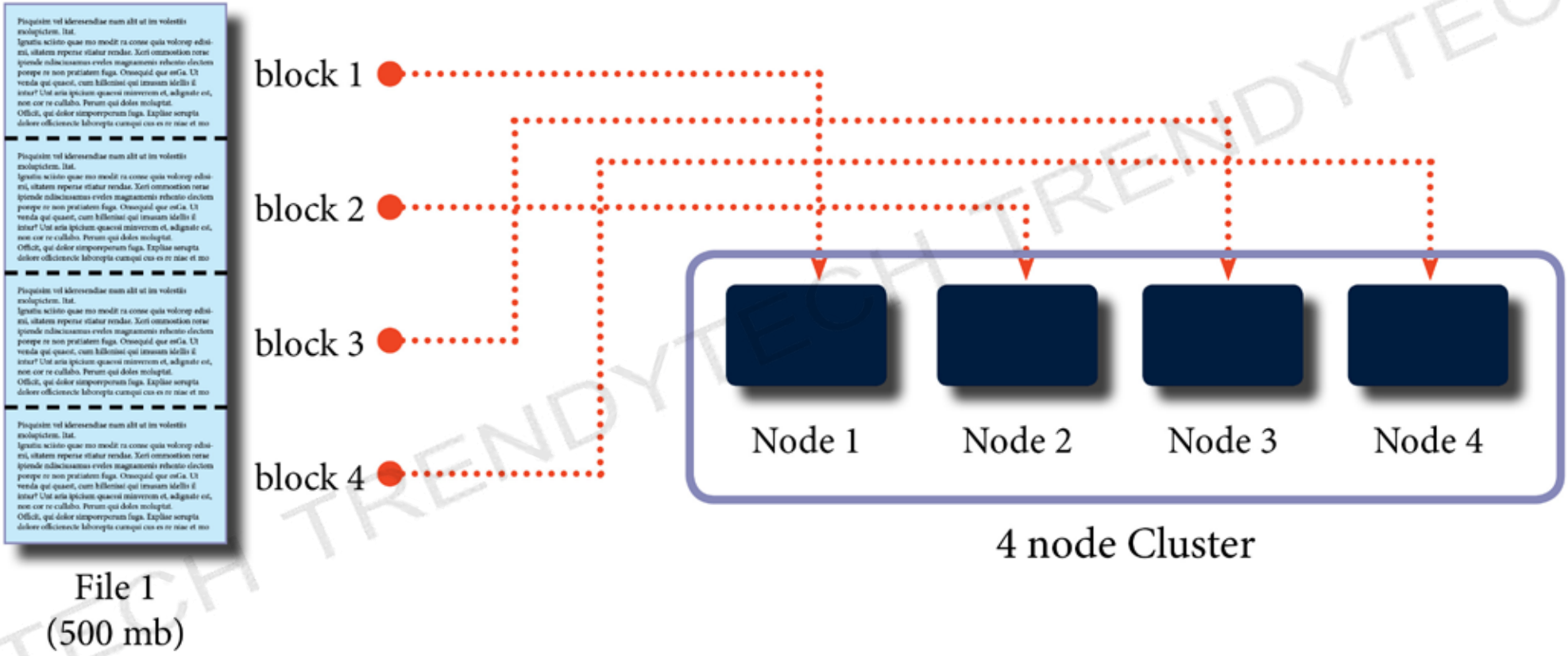
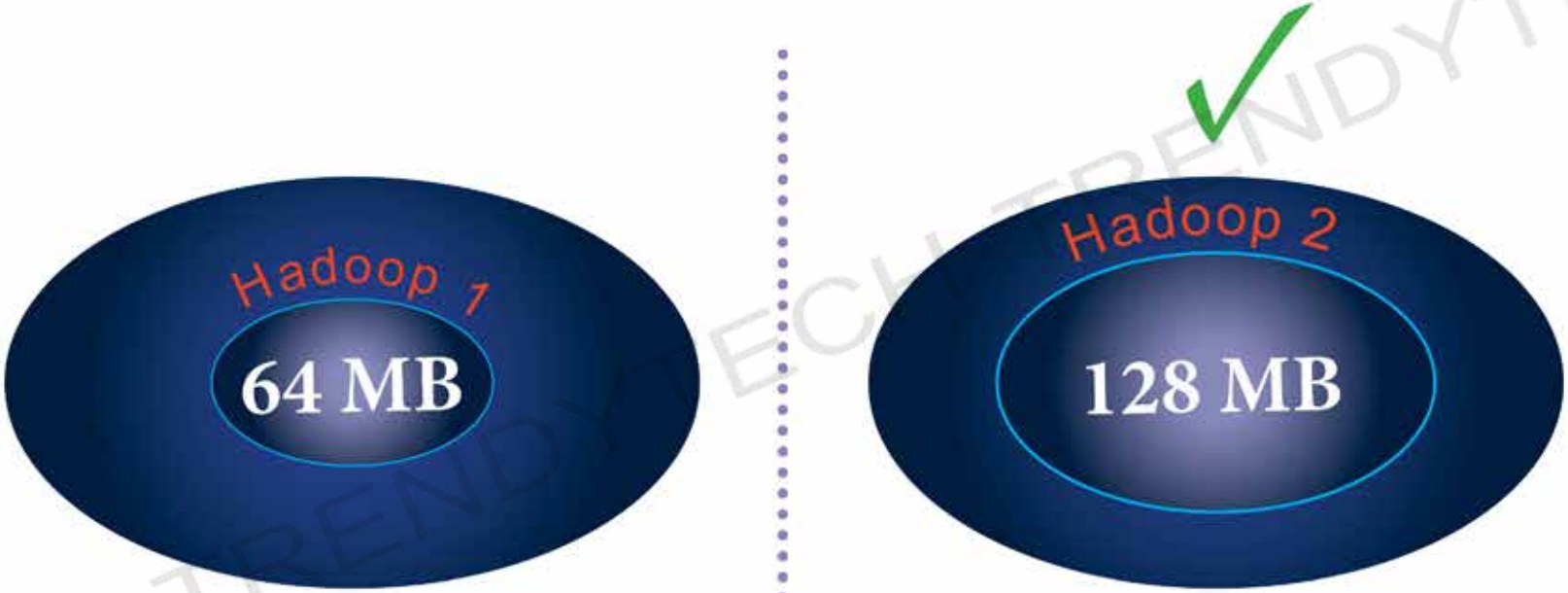


TRENDYTECH

HDFS ARCHITECTURE

HDFS Block Size

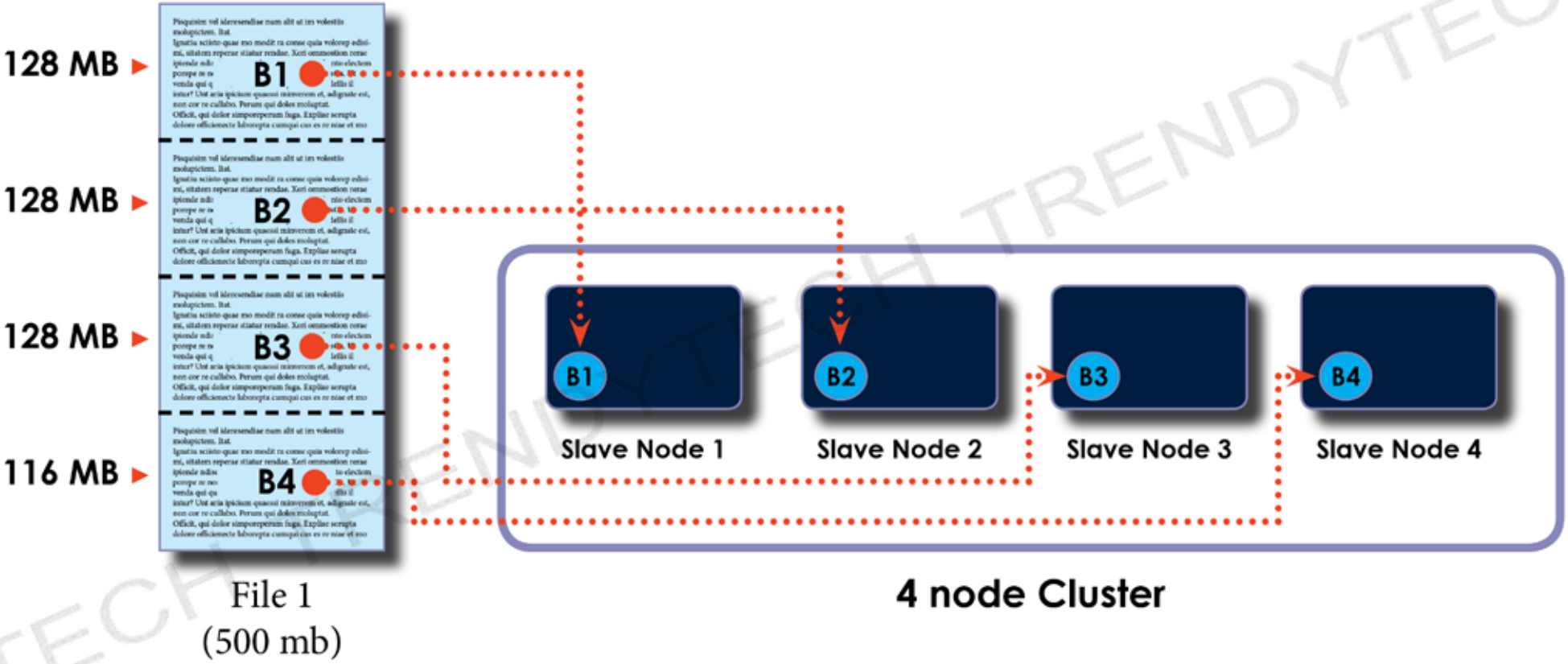


older version

current version

TRENDYTECH

HDFS ARCHITECTURE



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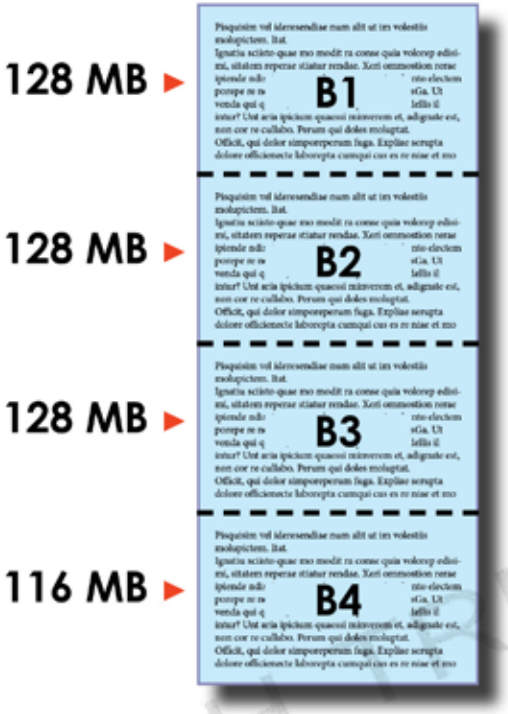

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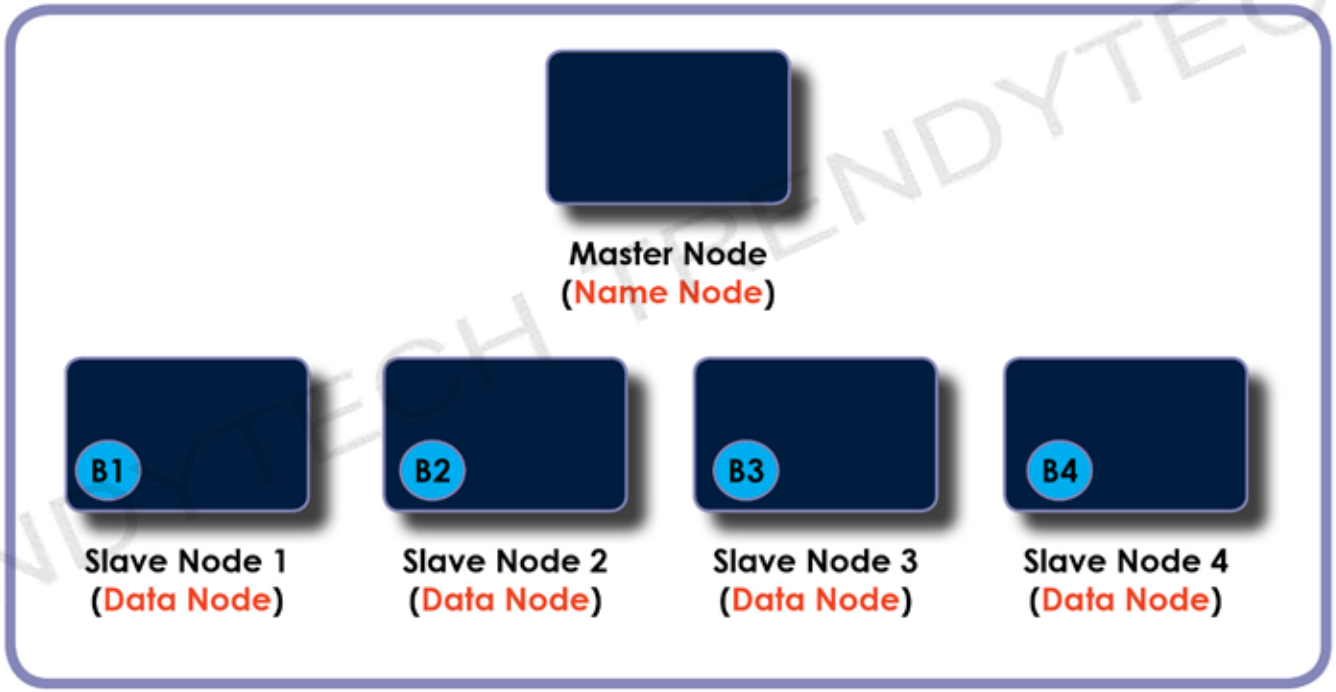

4 node Cluster

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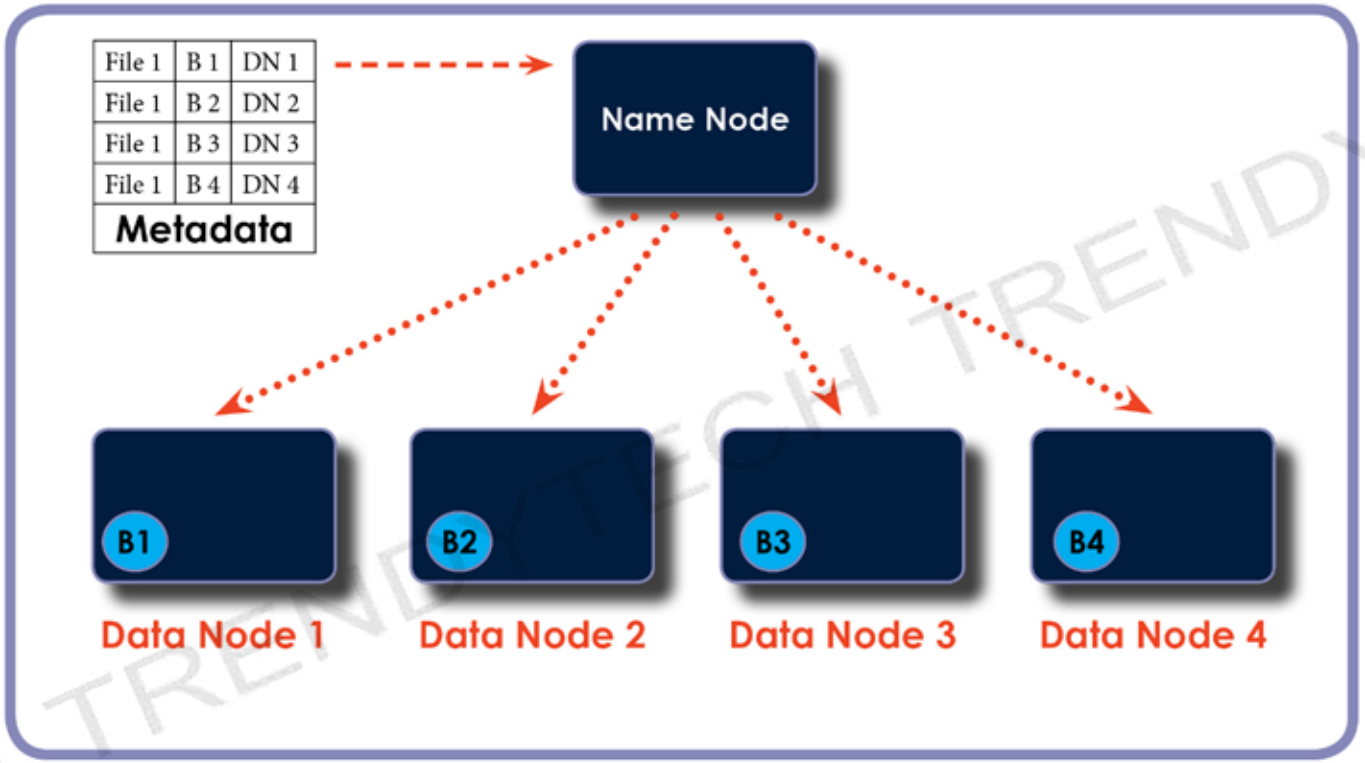

4 node Cluster

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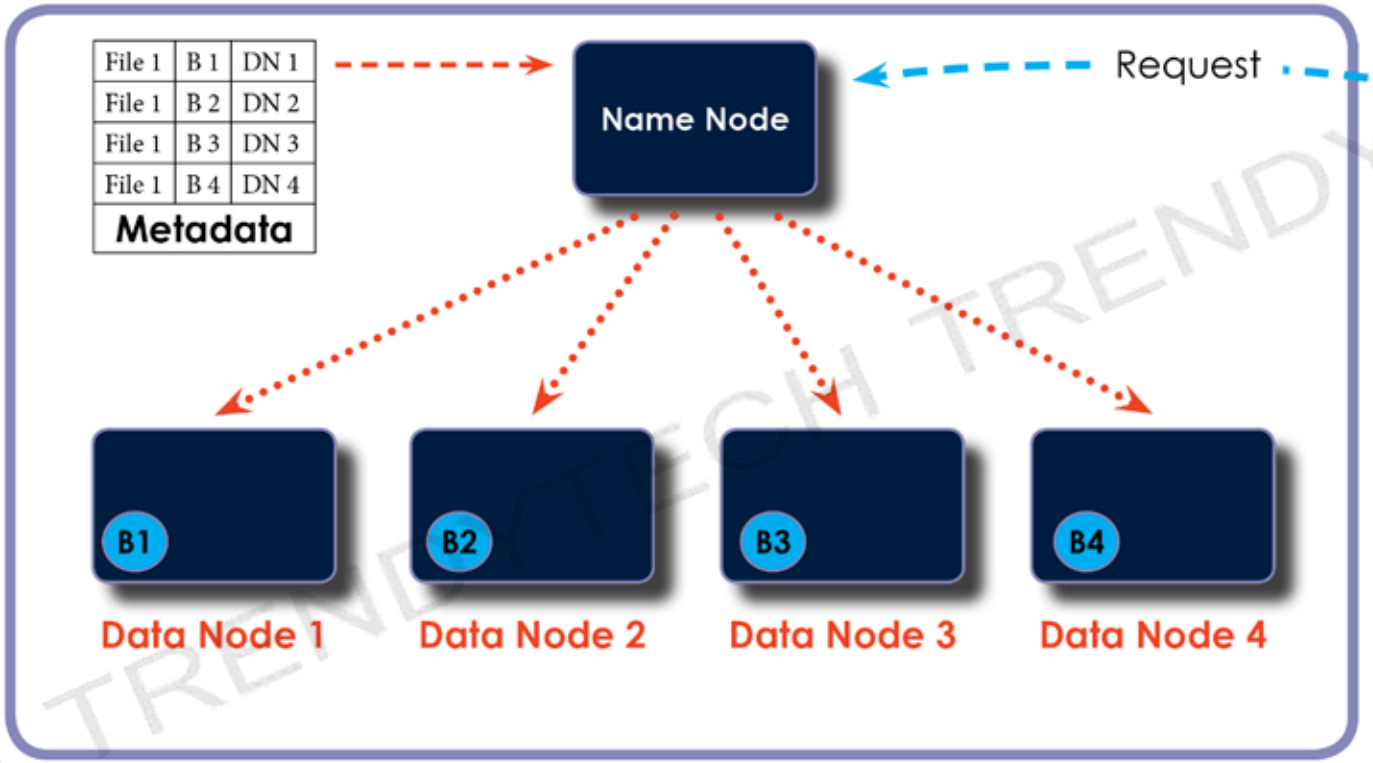

4 node Cluster

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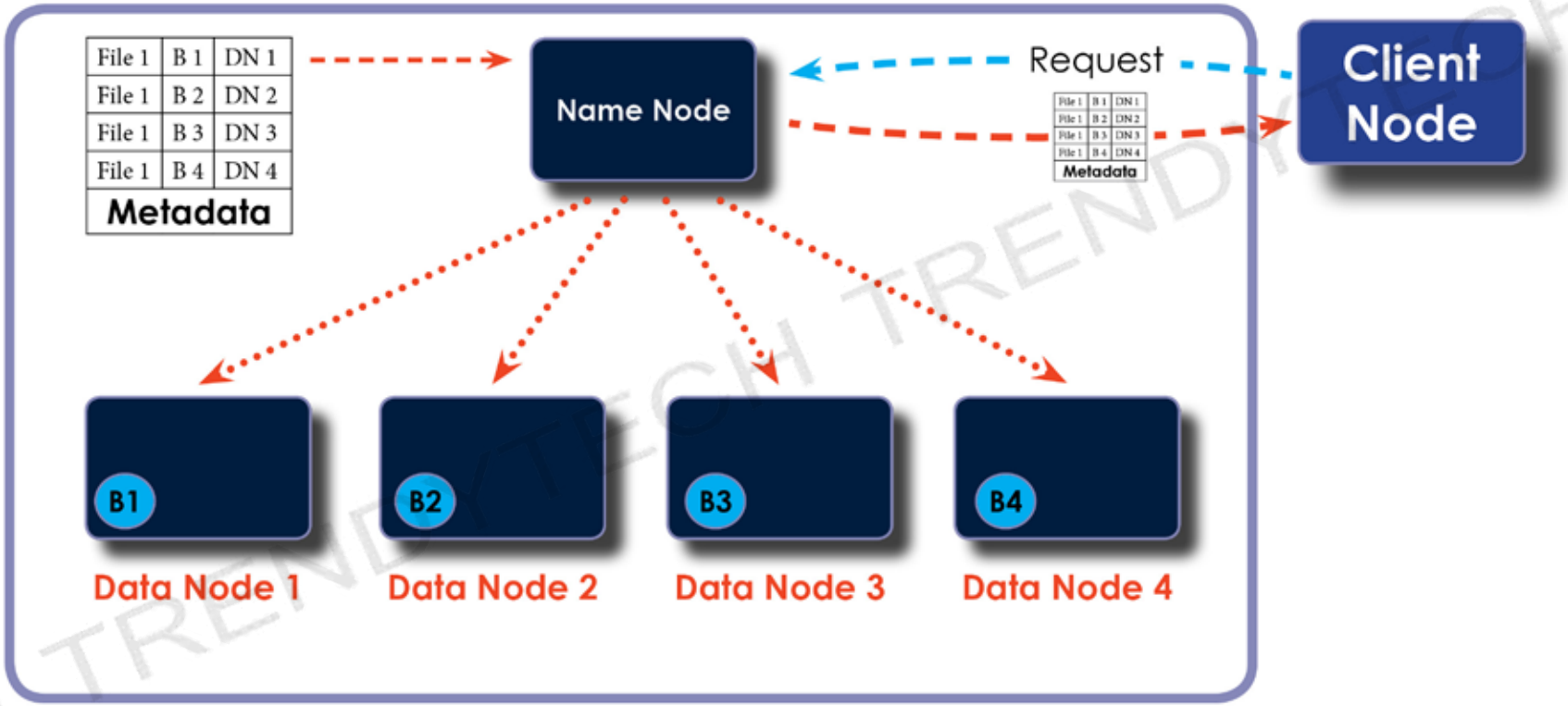

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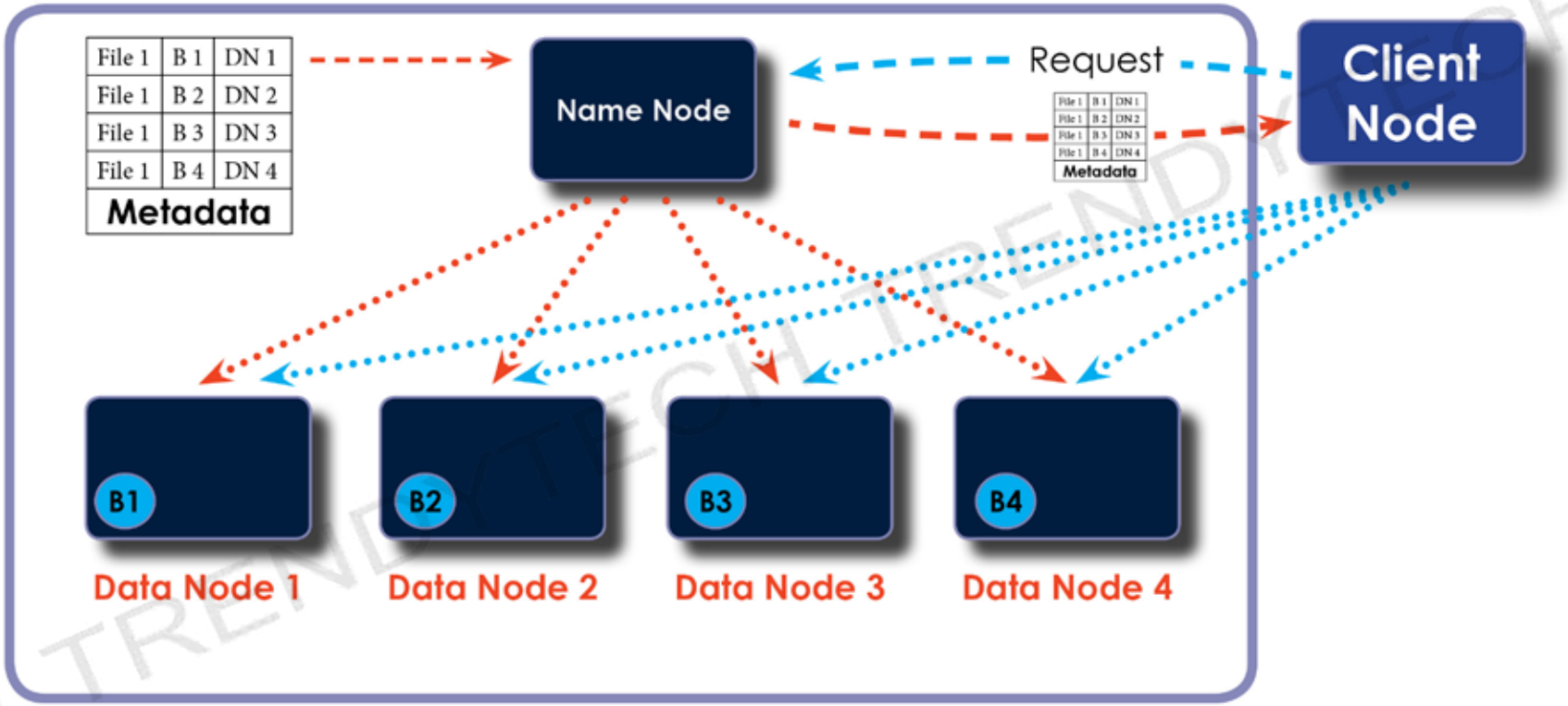

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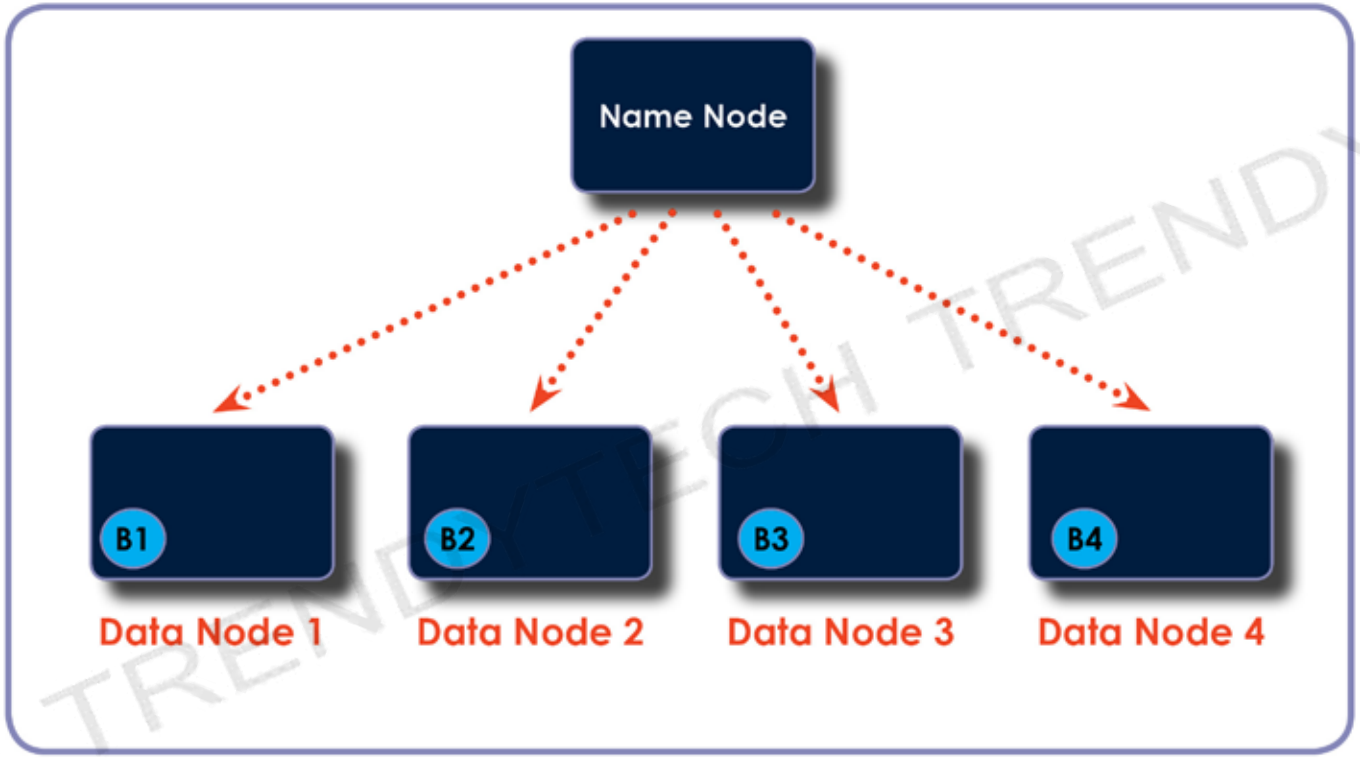

4 node Cluster

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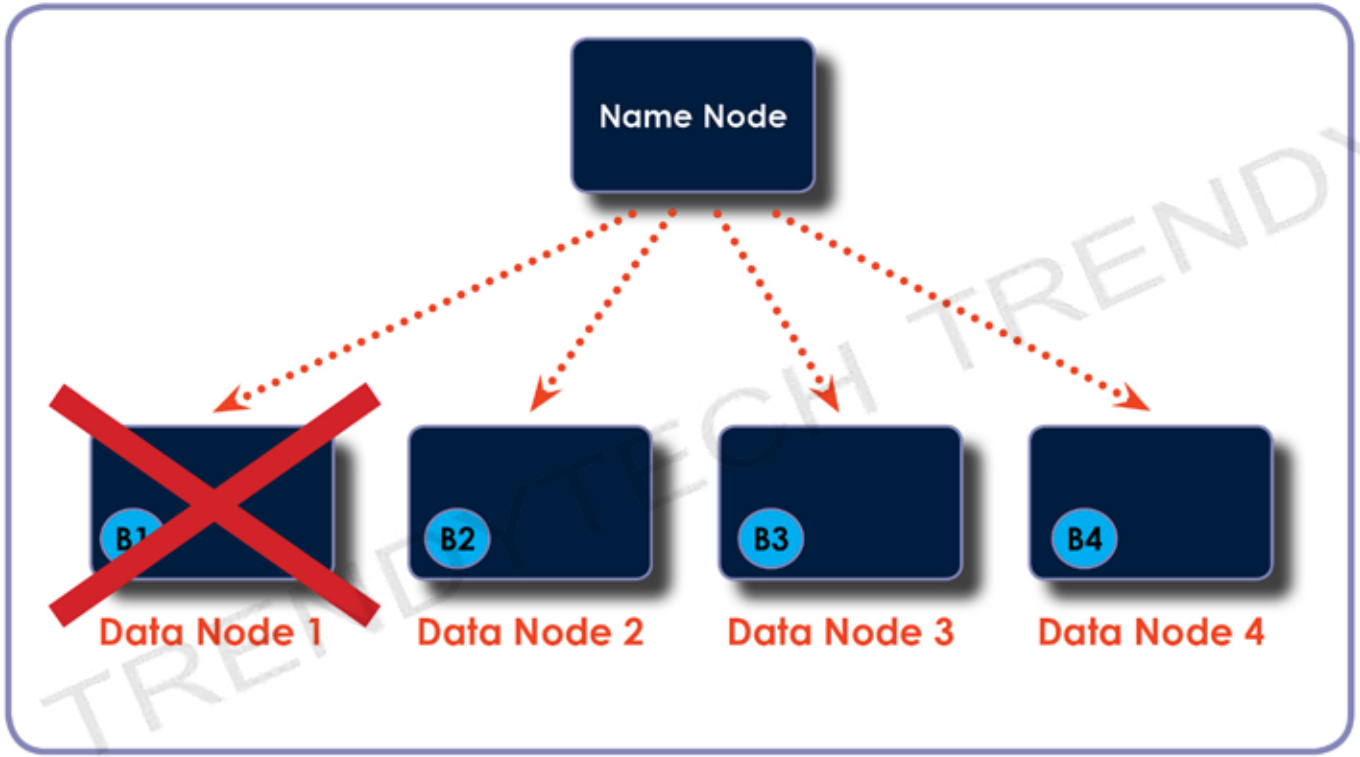

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4 node Cluster

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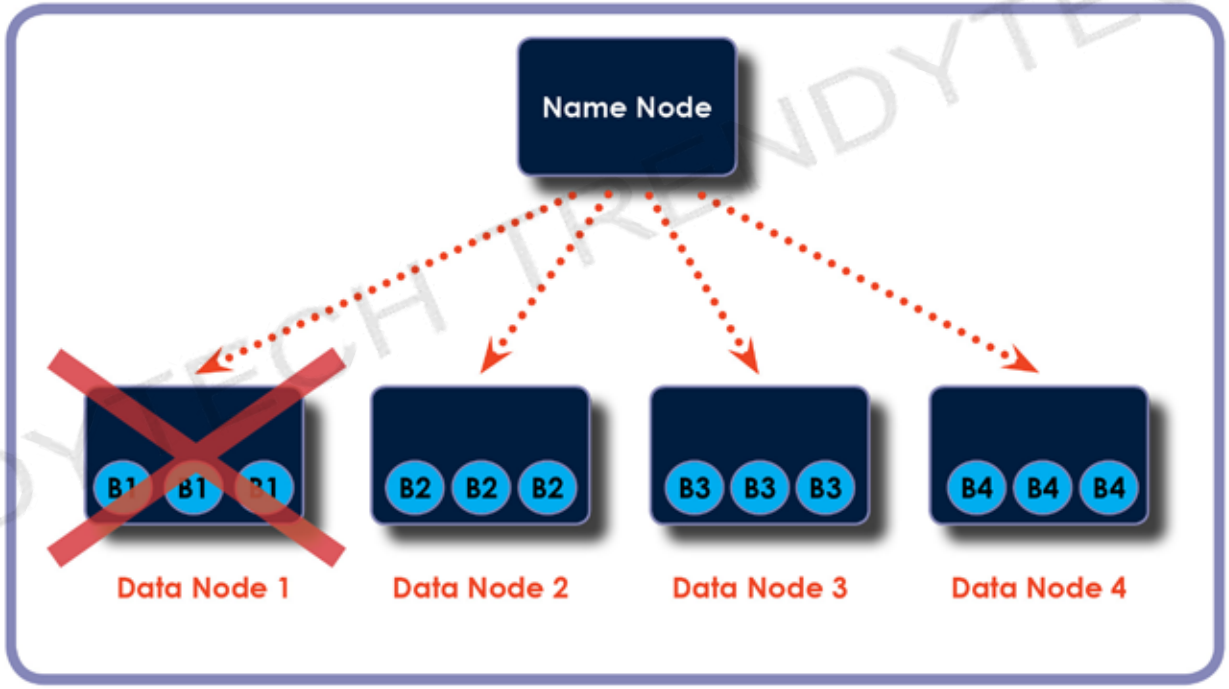
HDFS ARCHITECTURE

Replication Factor

Default Hadoop Replication Factor:

3



4 node Cluster

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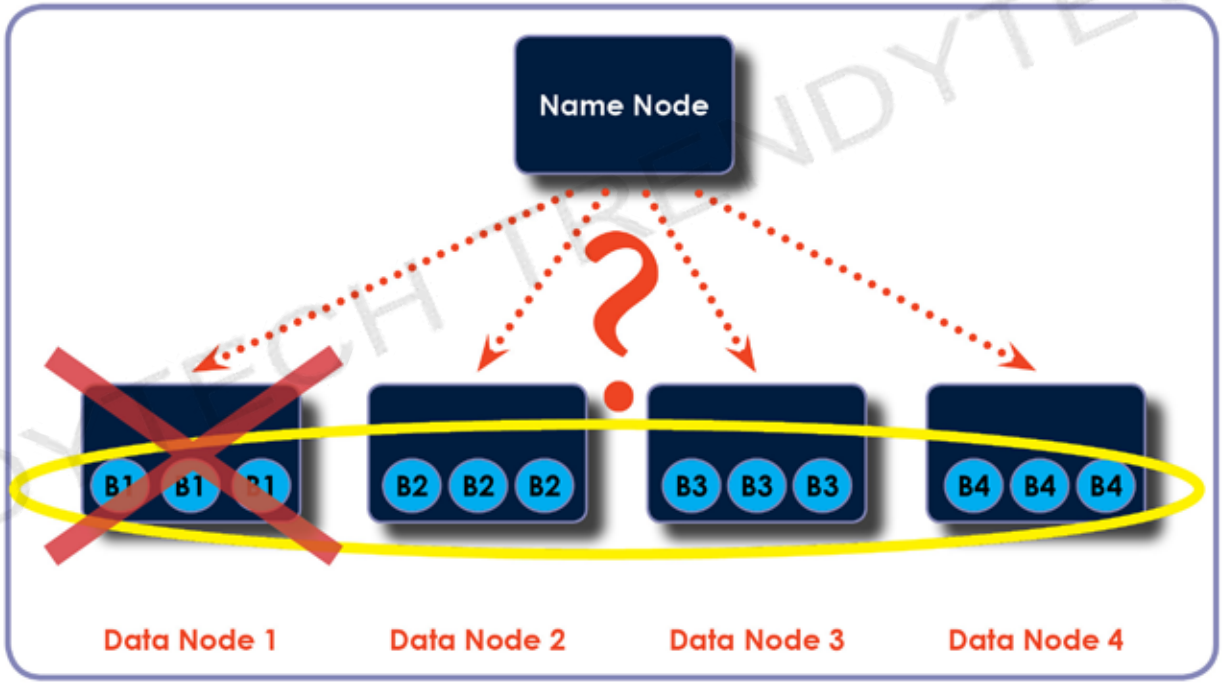

4 node Cluster

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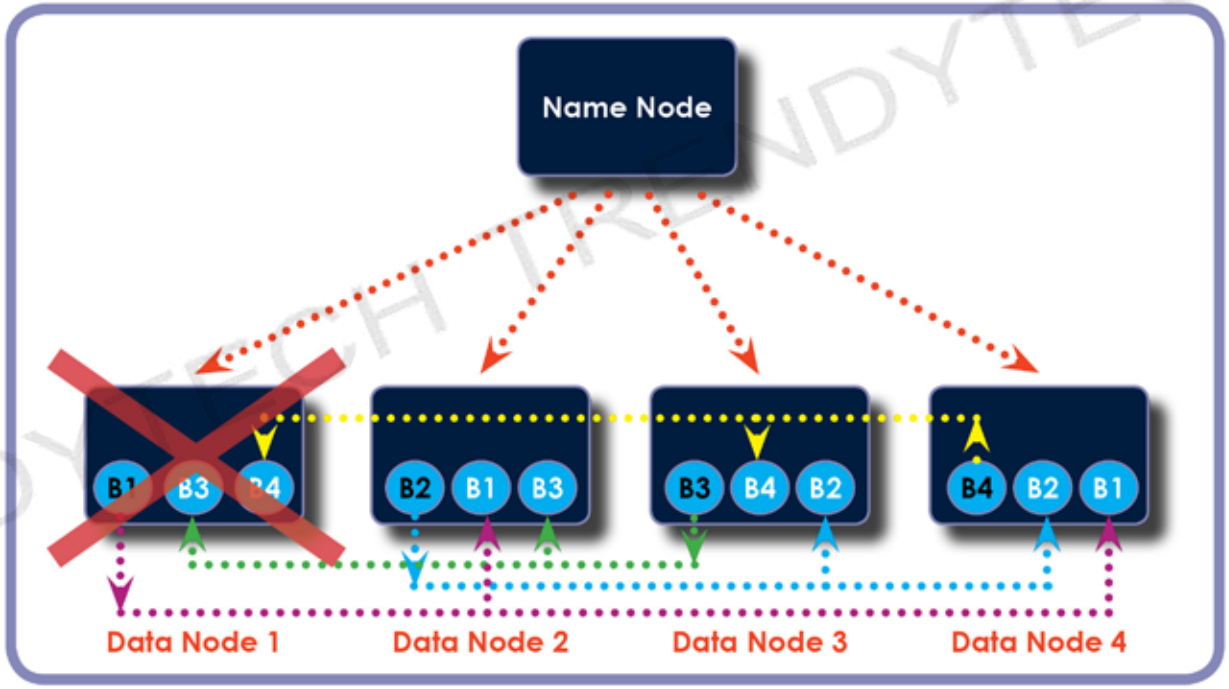

4 node Cluster

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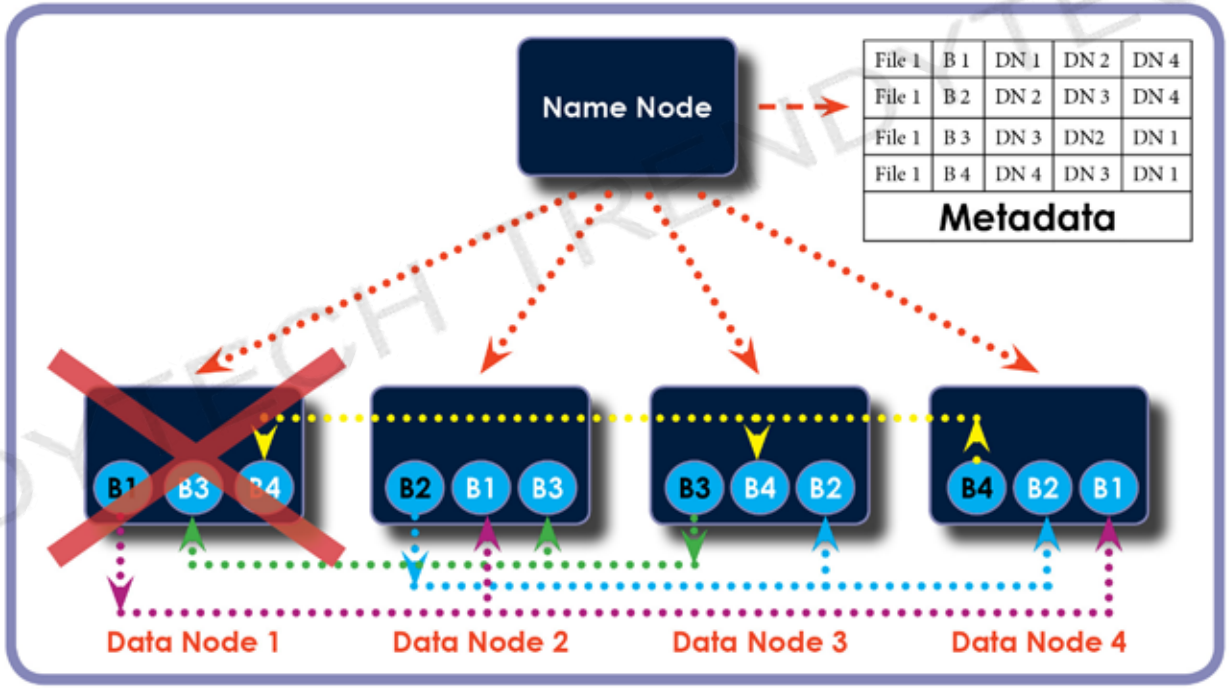


4 node Cluster

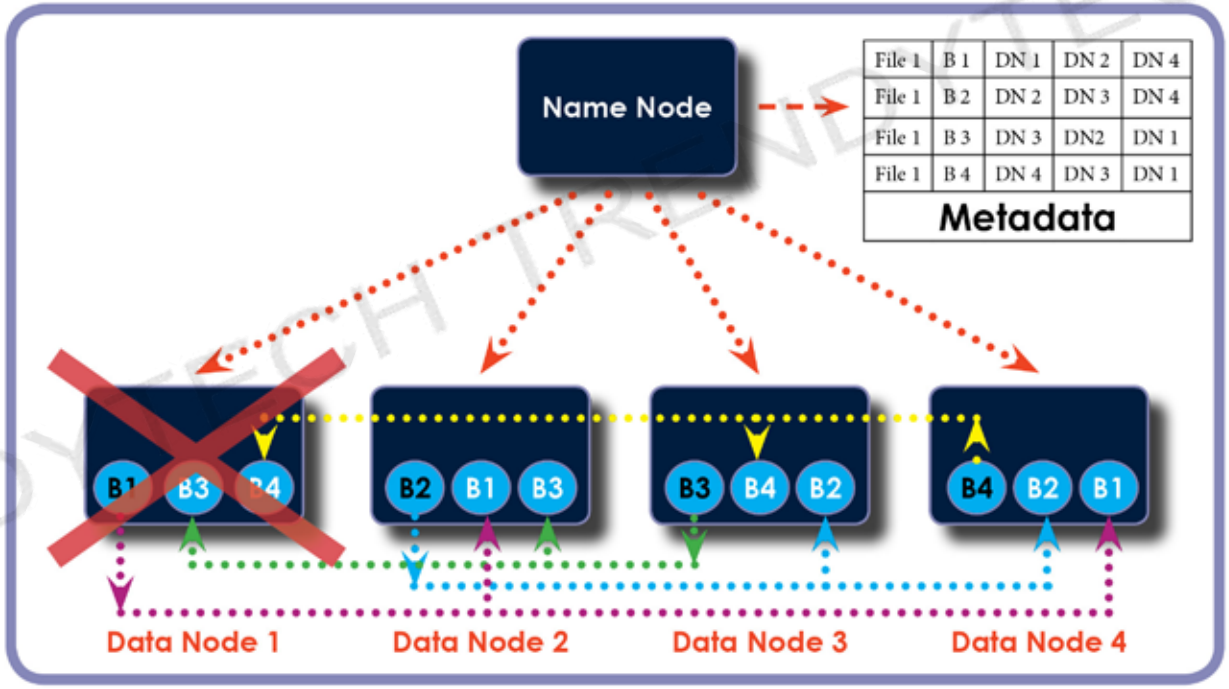
TRENDY TECH

HDFS ARCHITECTURE

Replication Factor

Default Hadoop Replication Factor: **3**

We can change Replication Factor as per our requirements



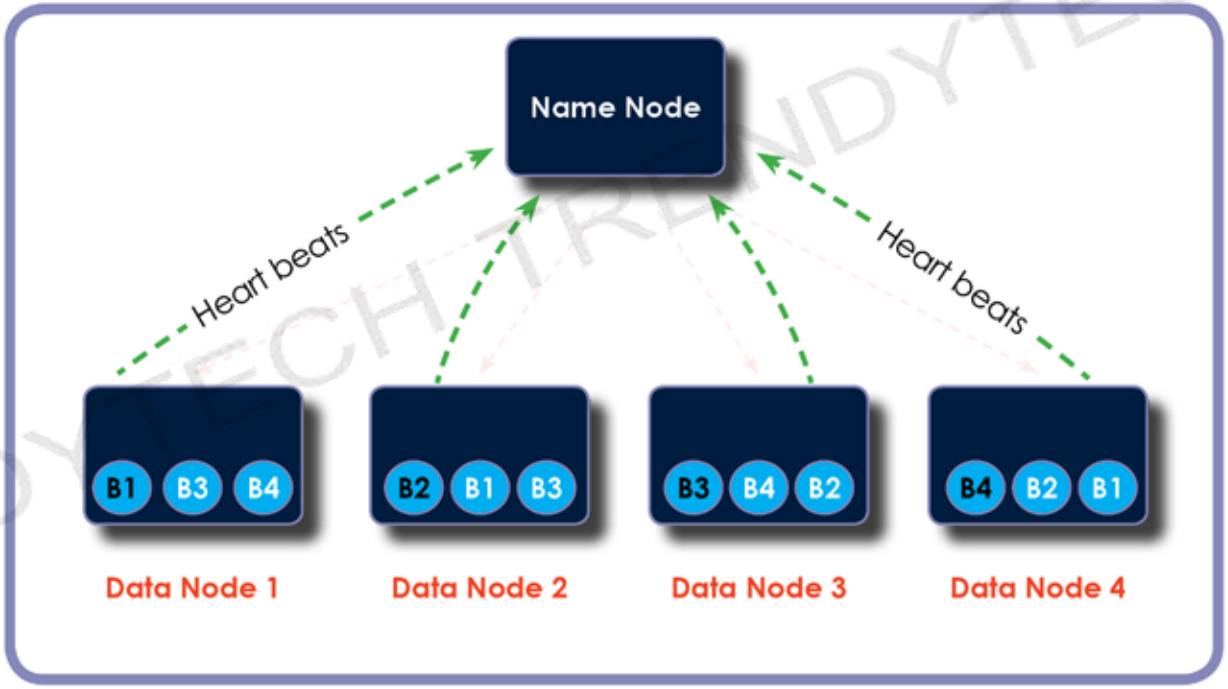
4 node Cluster

HDFS ARCHITECTURE

Heart Beat

Each Data Node sends heart beats to Name Node in every **3** seconds

If a Name Node doesn't receive **10** consecutive heart beats, it assumes that the Data Node is dead or running very slow



4 node Cluster

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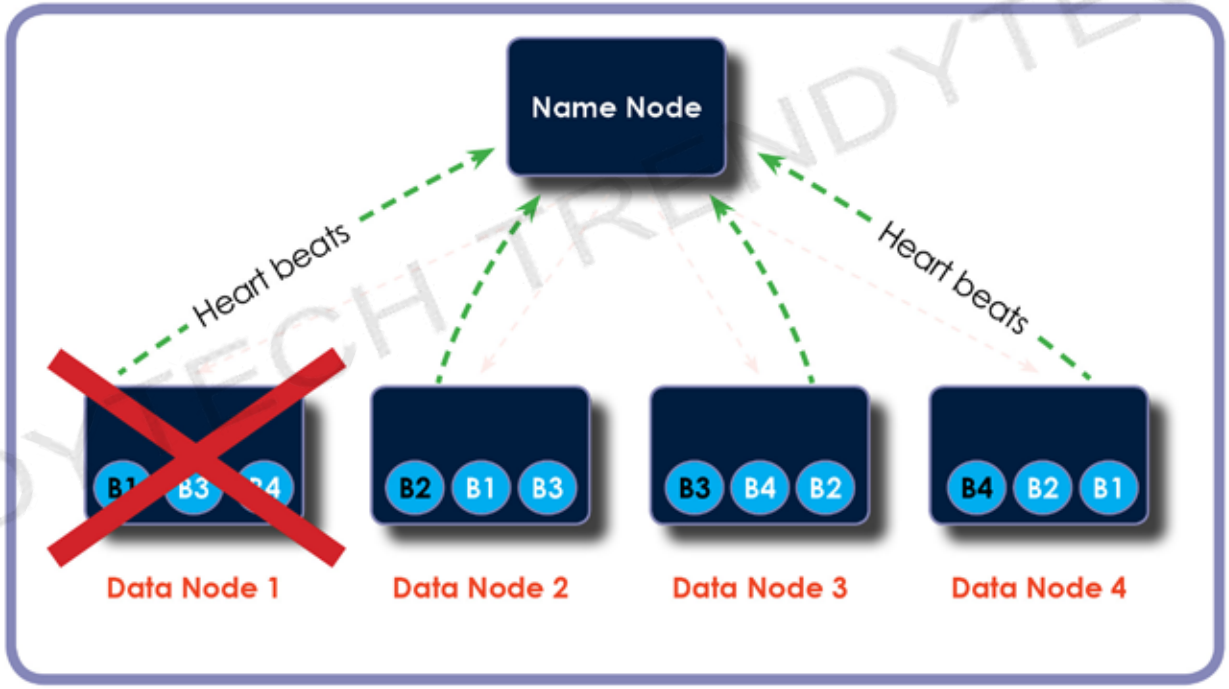
HDFS ARCHITECTURE

Fault Tolerance

If a Data Node goes down the replication factor came down to **< 3**



4 node Cluster

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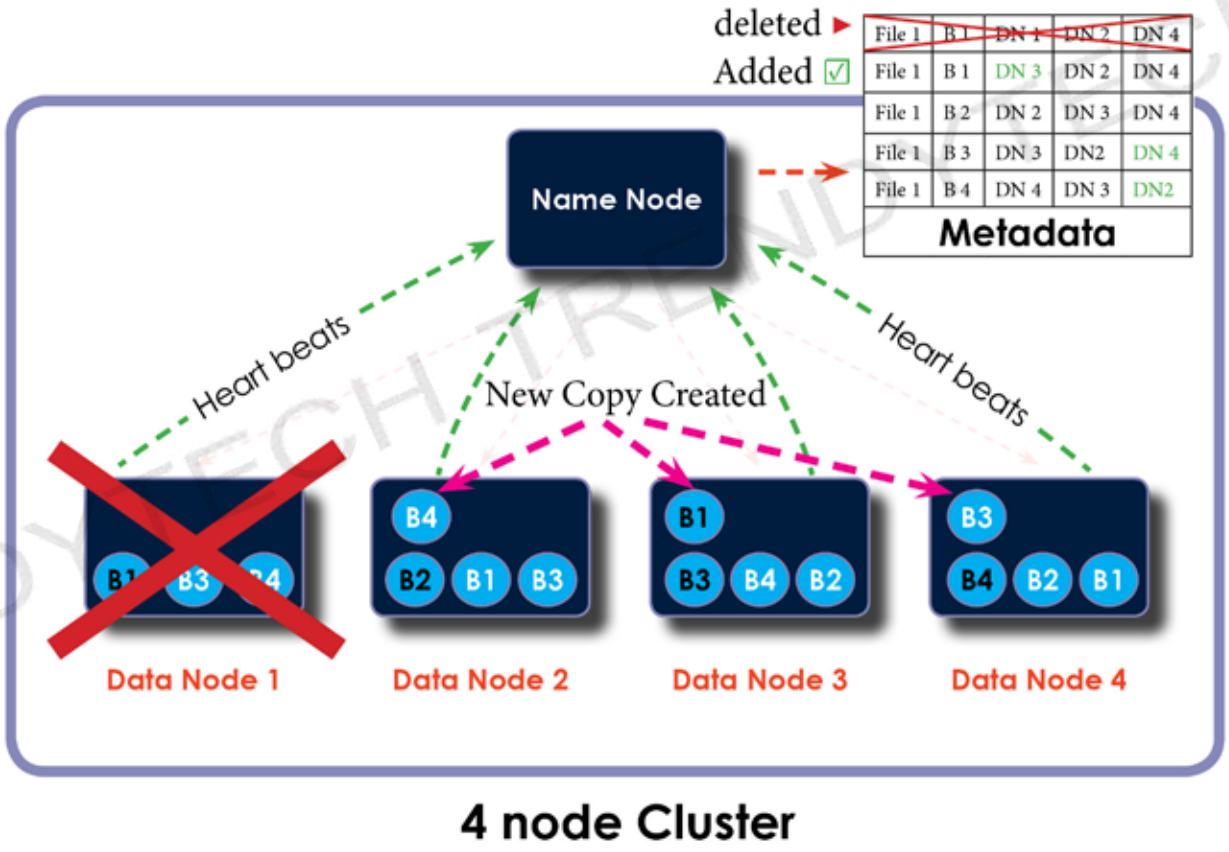
HDFS ARCHITECTURE

Fault Tolerance

If a Data Node goes down the replication factor came down to **< 3**

Name Node will create one more copy to maintain the replication factor



4 node Cluster

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