

HDFS Architecture

Part - 1



HDFS

Hadoop Distributed File System

by Sumit Mittal

HDFS ARCHITECTURE



Node 1



Node 2

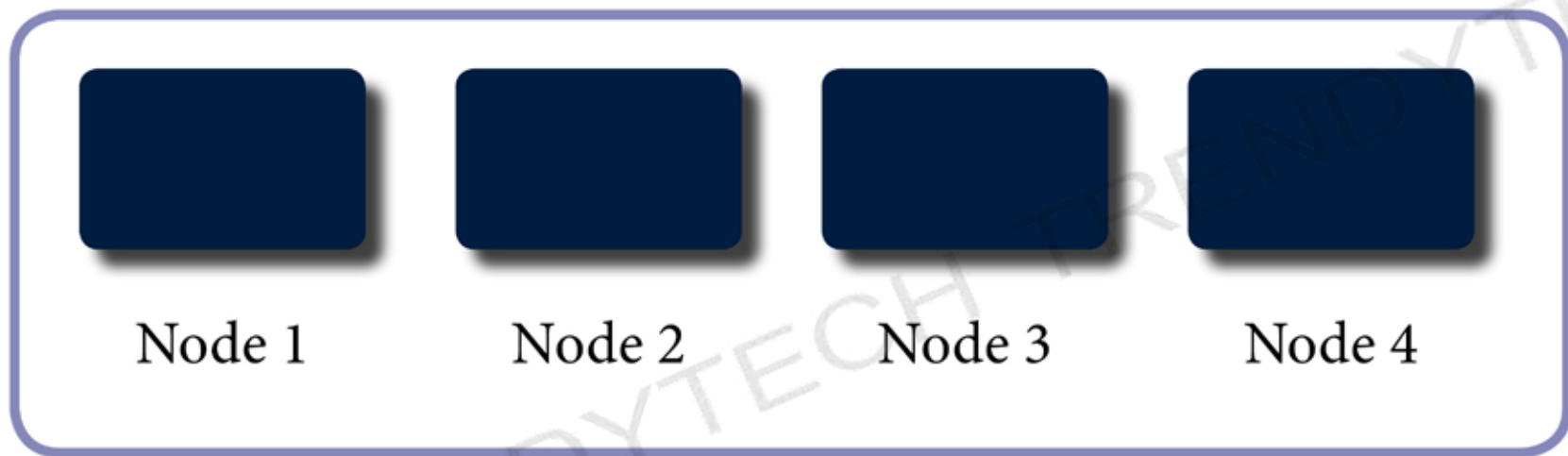


Node 3




Node 4

HDFS ARCHITECTURE



4 Node Cluster



Node 1 Node 2 Node 3 Node 4

4 node Cluster

File 1
(500 mb)



File 1
(500 mb)

HDFS ARCHITECTURE

Proquest vel iderendae nam alit ut in volentis
exoluptem. Ilat.
Igratin scilicet quae mo modit ra conse quia volucry edui-
ni, utatem repere etatur rendae. Xeti ornatione rerae
ipende nducissimus evles magnumis rebento dectem
perque re non pratiatem fuga. Ousquid quae mGa. Ut
venda qui quare, cum hilemisi qui inuam idellu il
itaur? Ut aut ipichum quareni miverem et, adgnate est,
non cor re callabo. Perum qui dolis moluptat.
Offidit, qui doler nimporporum fuga. Expliae scripta
dolere officineche laborupta canqui cna ex re niae et mo

Proquest vel iderendae nam alit ut in volentis
exoluptem. Ilat.
Igratin scilicet quae mo modit ra conse quia volucry edui-
ni, utatem repere etatur rendae. Xeti ornatione rerae
ipende nducissimus evles magnumis rebento dectem
perque re non pratiatem fuga. Ousquid quae mGa. Ut
venda qui quare, cum hilemisi qui inuam idellu il
itaur? Ut aut ipichum quareni miverem et, adgnate est,
non cor re callabo. Perum qui dolis moluptat.
Offidit, qui doler nimporporum fuga. Expliae scripta
dolere officineche laborupta canqui cna ex re niae et mo

Proquest vel iderendae nam alit ut in volentis
exoluptem. Ilat.
Igratin scilicet quae mo modit ra conse quia volucry edui-
ni, utatem repere etatur rendae. Xeti ornatione rerae
ipende nducissimus evles magnumis rebento dectem
perque re non pratiatem fuga. Ousquid quae mGa. Ut
venda qui quare, cum hilemisi qui inuam idellu il
itaur? Ut aut ipichum quareni miverem et, adgnate est,
non cor re callabo. Perum qui dolis moluptat.
Offidit, qui doler nimporporum fuga. Expliae scripta
dolere officineche laborupta canqui cna ex re niae et mo

Proquest vel iderendae nam alit ut in volentis
exoluptem. Ilat.
Igratin scilicet quae mo modit ra conse quia volucry edui-
ni, utatem repere etatur rendae. Xeti ornatione rerae
ipende nducissimus evles magnumis rebento dectem
perque re non pratiatem fuga. Ousquid quae mGa. Ut
venda qui quare, cum hilemisi qui inuam idellu il
itaur? Ut aut ipichum quareni miverem et, adgnate est,
non cor re callabo. Perum qui dolis moluptat.
Offidit, qui doler nimporporum fuga. Expliae scripta
dolere officineche laborupta canqui cna ex re niae et mo

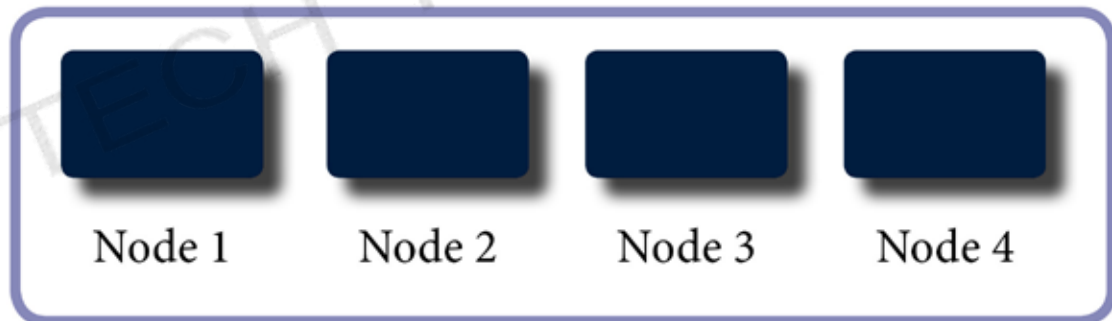
File 1
(500 mb)

block 1

block 2

block 3

block 4



4 node Cluster

HDFS ARCHITECTURE

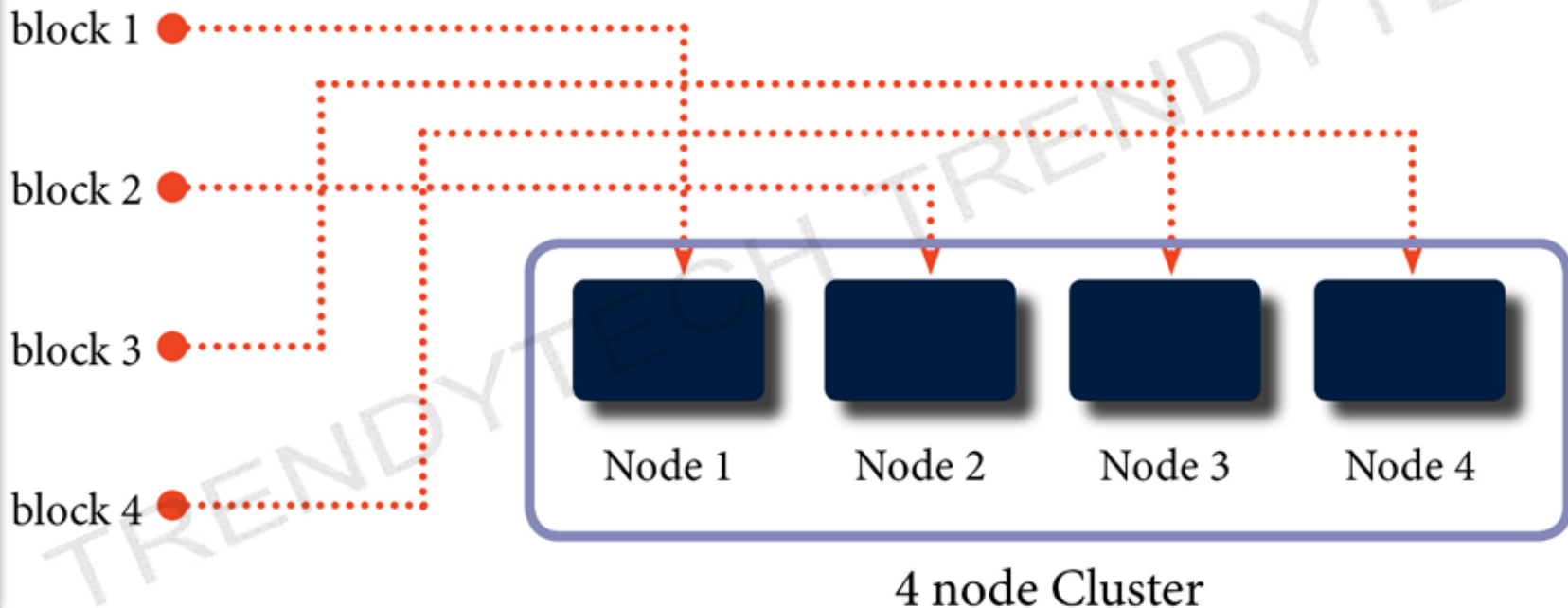
Pisquatin vel iderendae nam alit ut in volentis exoluptem. Ilat. Igratin scitio que no modit ra conse quia volucup edui-mi, sitatem repere etatur rendae. Xeti ornatione rerae ipende nducissimus evdes magnamem rehentio dectem porpae re non pratiatem fuga. Ousquid que mGa. Ut vunda qui quaeit, cum hilemisi qui inuam idello il itur? Ut aia ipichum quaeit miverem et, adgnate est, non cor re callabo. Perum qui dolo moluptat. Offici, qui dolo simporeperum fuga. Expliae serapta dolere officineche laborepta canqui cna ex re niae et mo

Pisquatin vel iderendae nam alit ut in volentis exoluptem. Ilat. Igratin scitio que no modit ra conse quia volucup edui-mi, sitatem repere etatur rendae. Xeti ornatione rerae ipende nducissimus evdes magnamem rehentio dectem porpae re non pratiatem fuga. Ousquid que mGa. Ut vunda qui quaeit, cum hilemisi qui inuam idello il itur? Ut aia ipichum quaeit miverem et, adgnate est, non cor re callabo. Perum qui dolo moluptat. Offici, qui dolo simporeperum fuga. Expliae serapta dolere officineche laborepta canqui cna ex re niae et mo

Pisquatin vel iderendae nam alit ut in volentis exoluptem. Ilat. Igratin scitio que no modit ra conse quia volucup edui-mi, sitatem repere etatur rendae. Xeti ornatione rerae ipende nducissimus evdes magnamem rehentio dectem porpae re non pratiatem fuga. Ousquid que mGa. Ut vunda qui quaeit, cum hilemisi qui inuam idello il itur? Ut aia ipichum quaeit miverem et, adgnate est, non cor re callabo. Perum qui dolo moluptat. Offici, qui dolo simporeperum fuga. Expliae serapta dolere officineche laborepta canqui cna ex re niae et mo

Pisquatin vel iderendae nam alit ut in volentis exoluptem. Ilat. Igratin scitio que no modit ra conse quia volucup edui-mi, sitatem repere etatur rendae. Xeti ornatione rerae ipende nducissimus evdes magnamem rehentio dectem porpae re non pratiatem fuga. Ousquid que mGa. Ut vunda qui quaeit, cum hilemisi qui inuam idello il itur? Ut aia ipichum quaeit miverem et, adgnate est, non cor re callabo. Perum qui dolo moluptat. Offici, qui dolo simporeperum fuga. Expliae serapta dolere officineche laborepta canqui cna ex re niae et mo

File 1
(500 mb)



HDFS ARCHITECTURE

HDFS Block Size

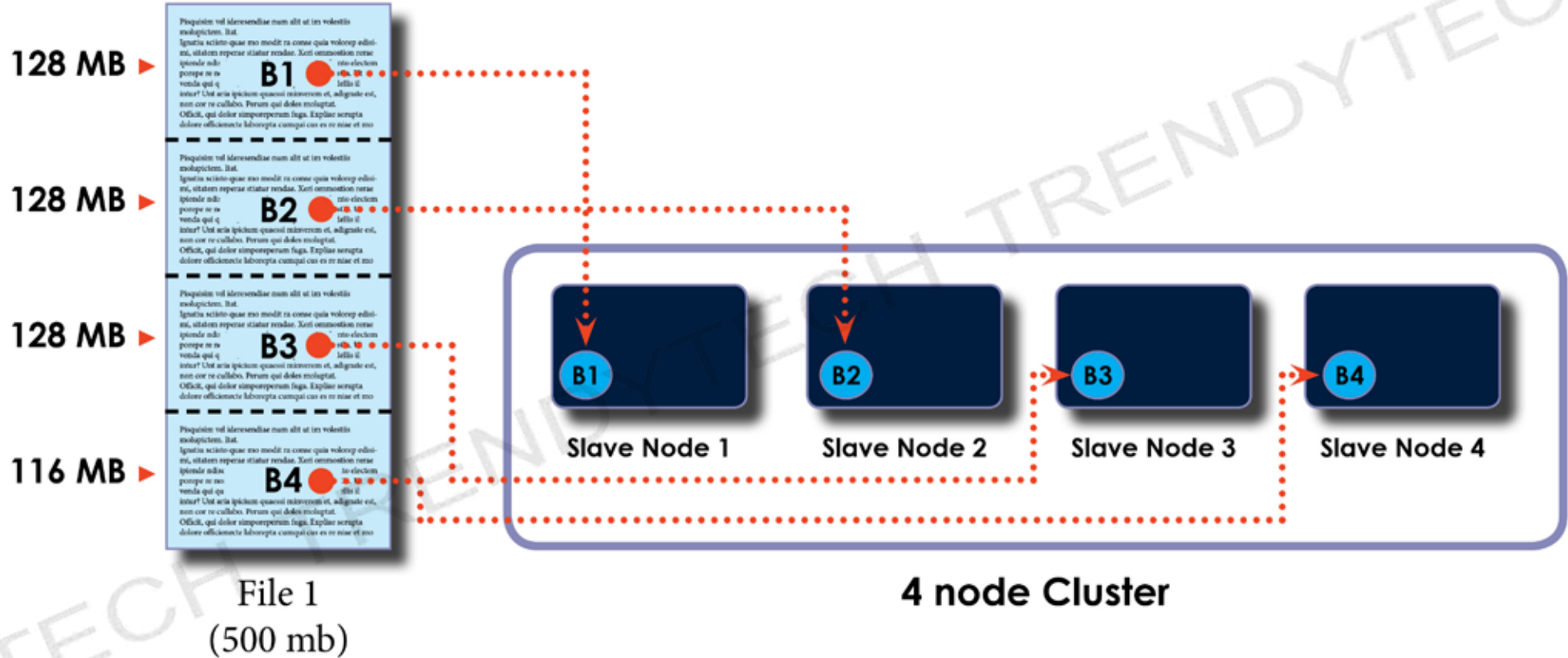


older version



current version

HDFS ARCHITECTURE



HDFS ARCHITECTURE

128 MB ▶

Proquest vel ideresendae num alit ut in volentis
moluptetum. Ilat.
Ipsutis scilicet quas mo modit ra conne quia volerep edui-
mi, utatam repere utatur rendas. Xeni ommissioni rerue
ipiente adu rno electum
perpue re re
renda qui q
itatur? Ut acia ipicium quosui miterrem et, adgnate est,
non cor re callabo. Perum qui dolos moluptat.
Oficillit, qui dolor simporeperum fuga. Expilae scripta
dolore officinacit laborupta cumpui cius es re niae et mo

B1

128 MB ▶

Proquest vel ideresendae num alit ut in volentis
moluptetum. Ilat.
Ipsutis scilicet quas mo modit ra conne quia volerep edui-
mi, utatam repere utatur rendas. Xeni ommissioni rerue
ipiente adu rno electum
perpue re re
renda qui q
itatur? Ut acia ipicium quosui miterrem et, adgnate est,
non cor re callabo. Perum qui dolos moluptat.
Oficillit, qui dolor simporeperum fuga. Expilae scripta
dolore officinacit laborupta cumpui cius es re niae et mo

B2

128 MB ▶

Proquest vel ideresendae num alit ut in volentis
moluptetum. Ilat.
Ipsutis scilicet quas mo modit ra conne quia volerep edui-
mi, utatam repere utatur rendas. Xeni ommissioni rerue
ipiente adu rno electum
perpue re re
renda qui q
itatur? Ut acia ipicium quosui miterrem et, adgnate est,
non cor re callabo. Perum qui dolos moluptat.
Oficillit, qui dolor simporeperum fuga. Expilae scripta
dolore officinacit laborupta cumpui cius es re niae et mo

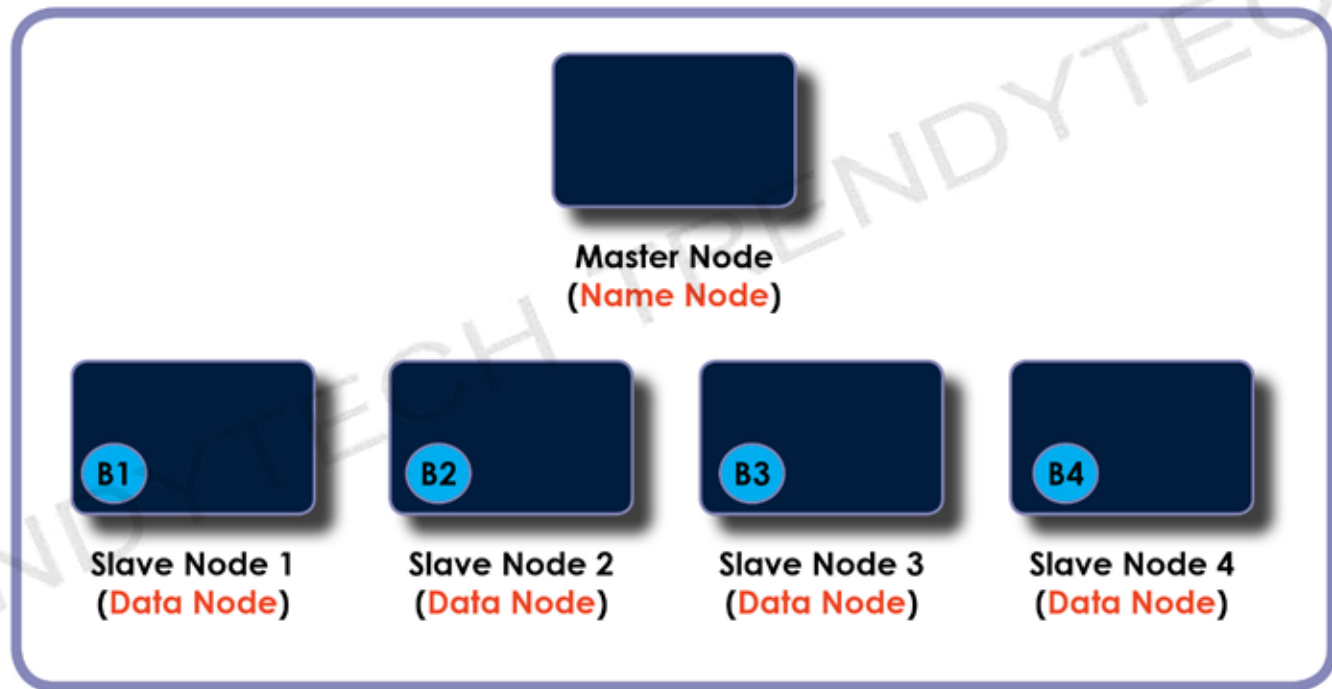
B3

116 MB ▶

Proquest vel ideresendae num alit ut in volentis
moluptetum. Ilat.
Ipsutis scilicet quas mo modit ra conne quia volerep edui-
mi, utatam repere utatur rendas. Xeni ommissioni rerue
ipiente adu rno electum
perpue re re
renda qui q
itatur? Ut acia ipicium quosui miterrem et, adgnate est,
non cor re callabo. Perum qui dolos moluptat.
Oficillit, qui dolor simporeperum fuga. Expilae scripta
dolore officinacit laborupta cumpui cius es re niae et mo

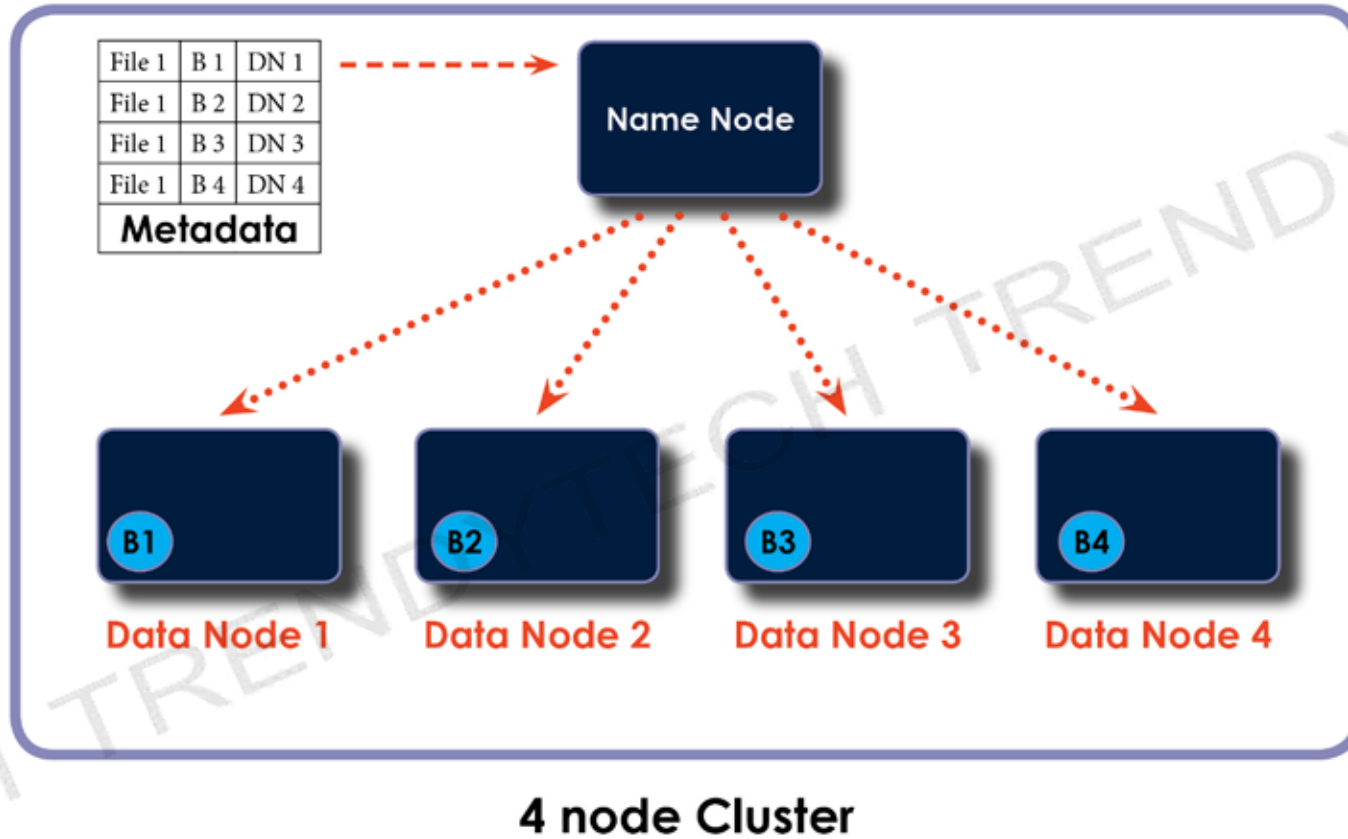
B4

File 1
(500 mb)

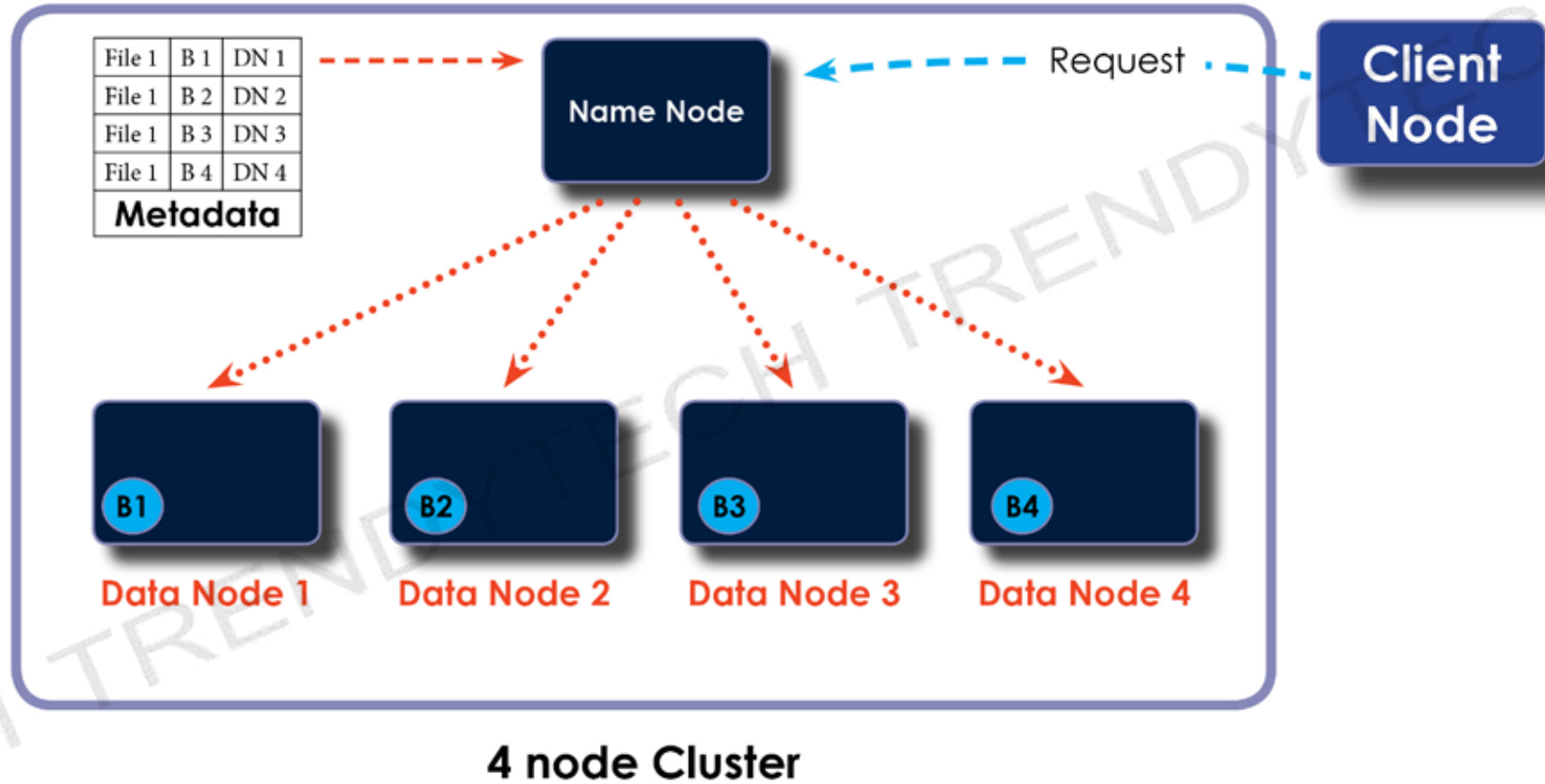


4 node Cluster

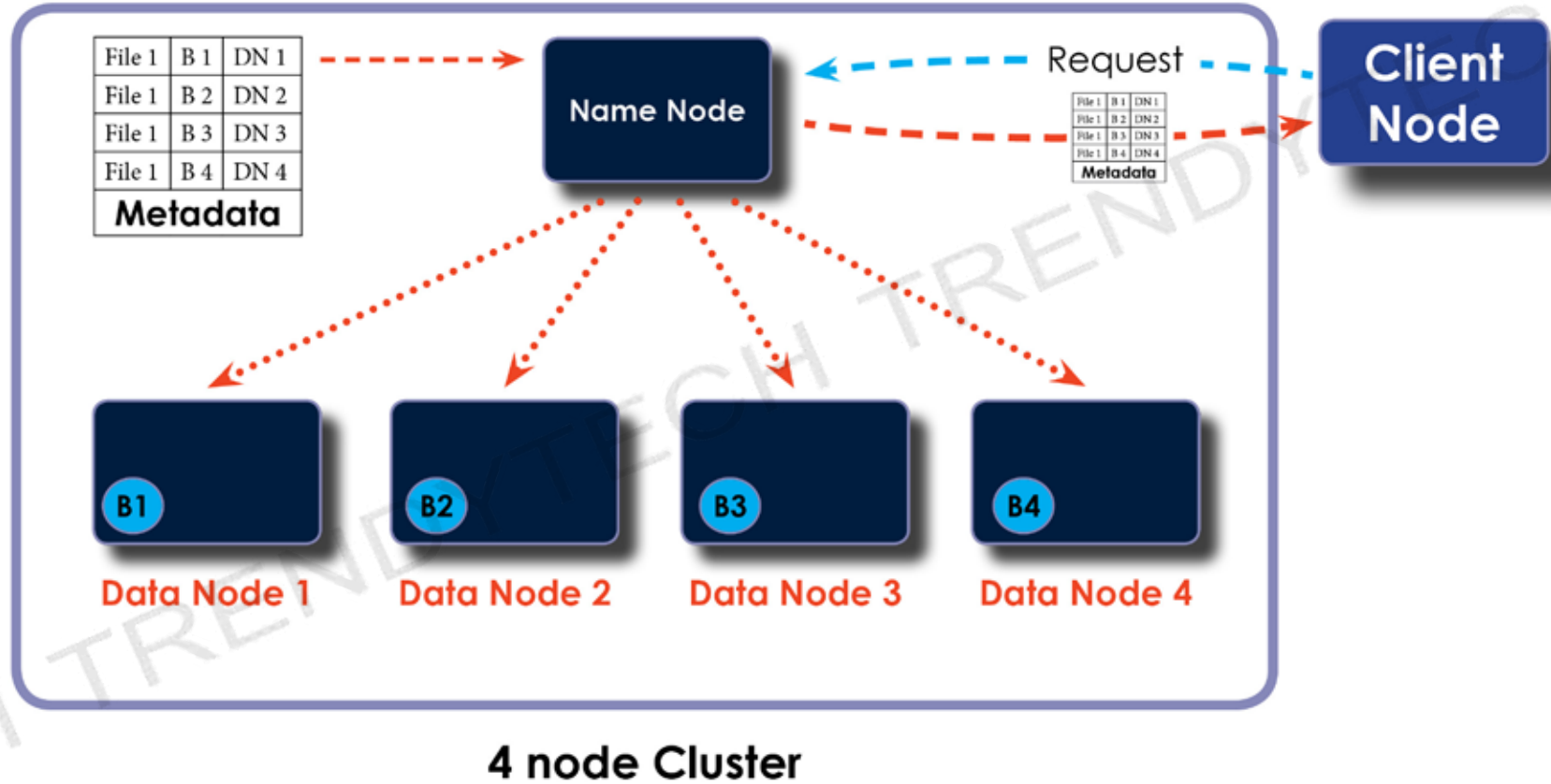
HDFS ARCHITECTURE



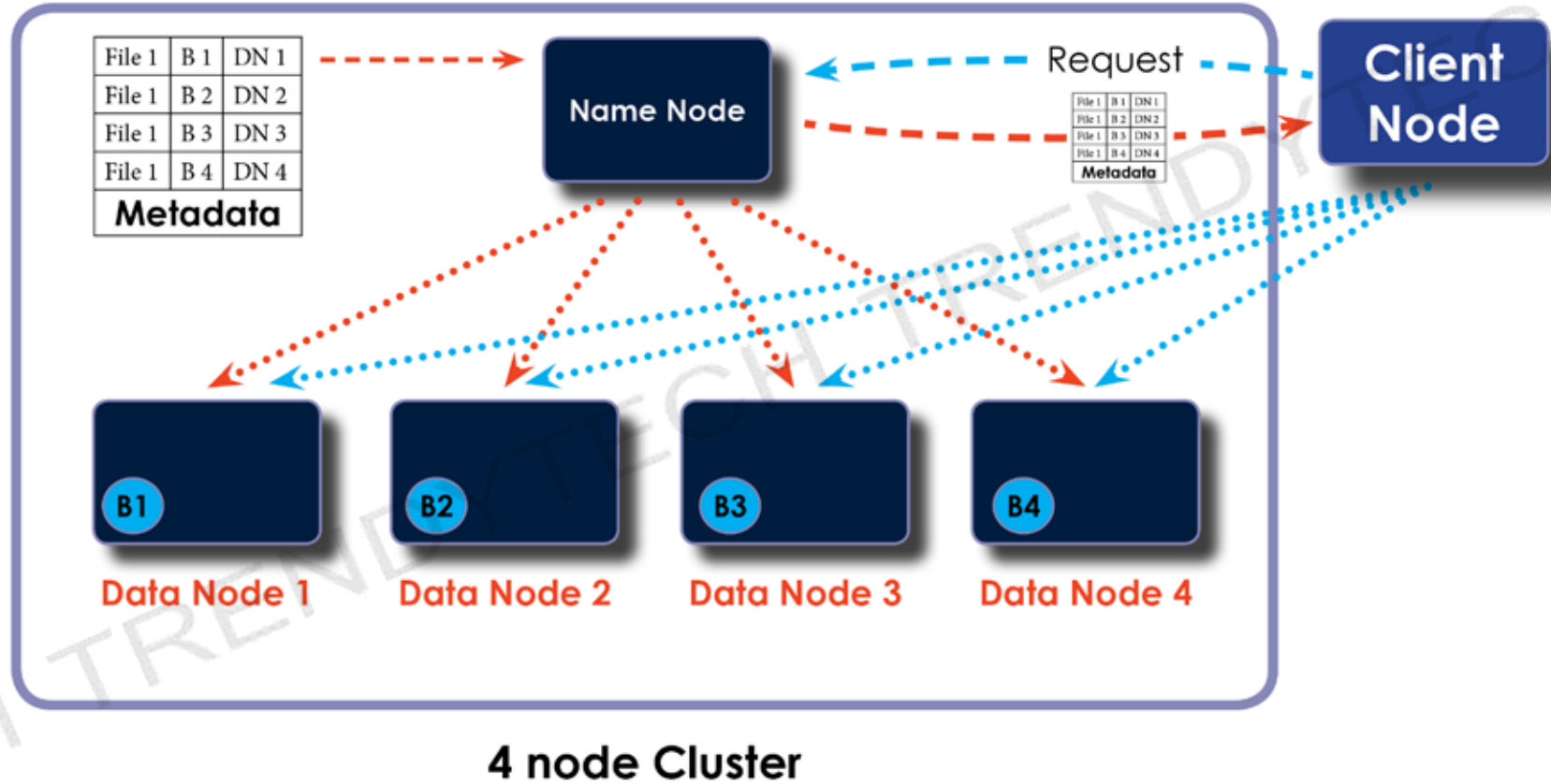
HDFS ARCHITECTURE



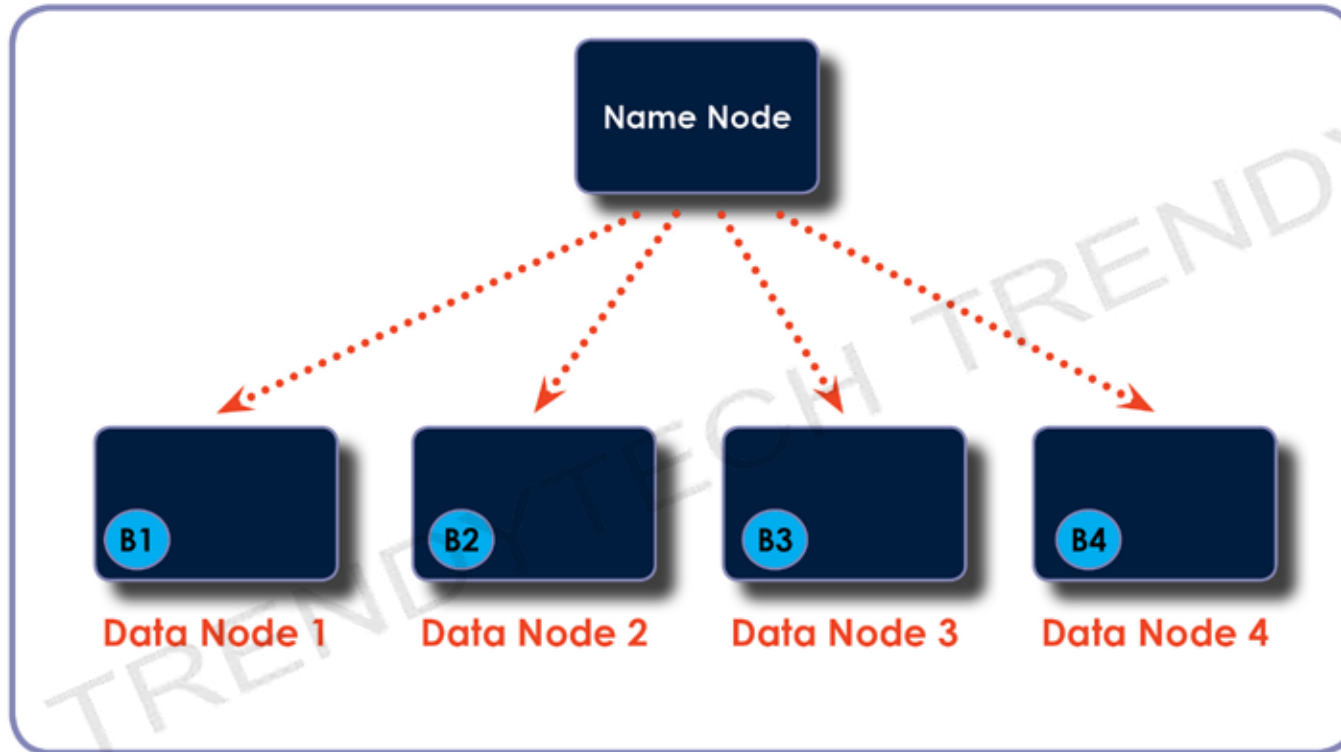
HDFS ARCHITECTURE



HDFS ARCHITECTURE

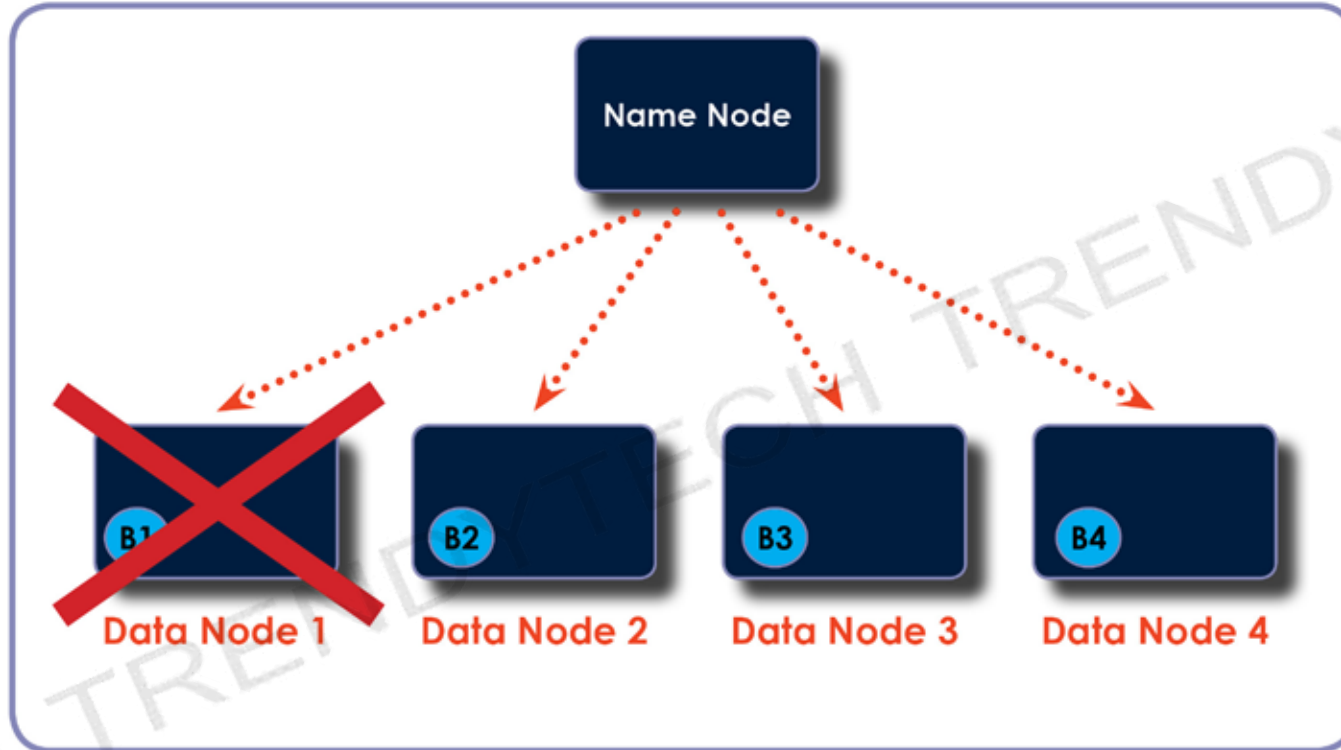


HDFS ARCHITECTURE



4 node Cluster

HDFS ARCHITECTURE



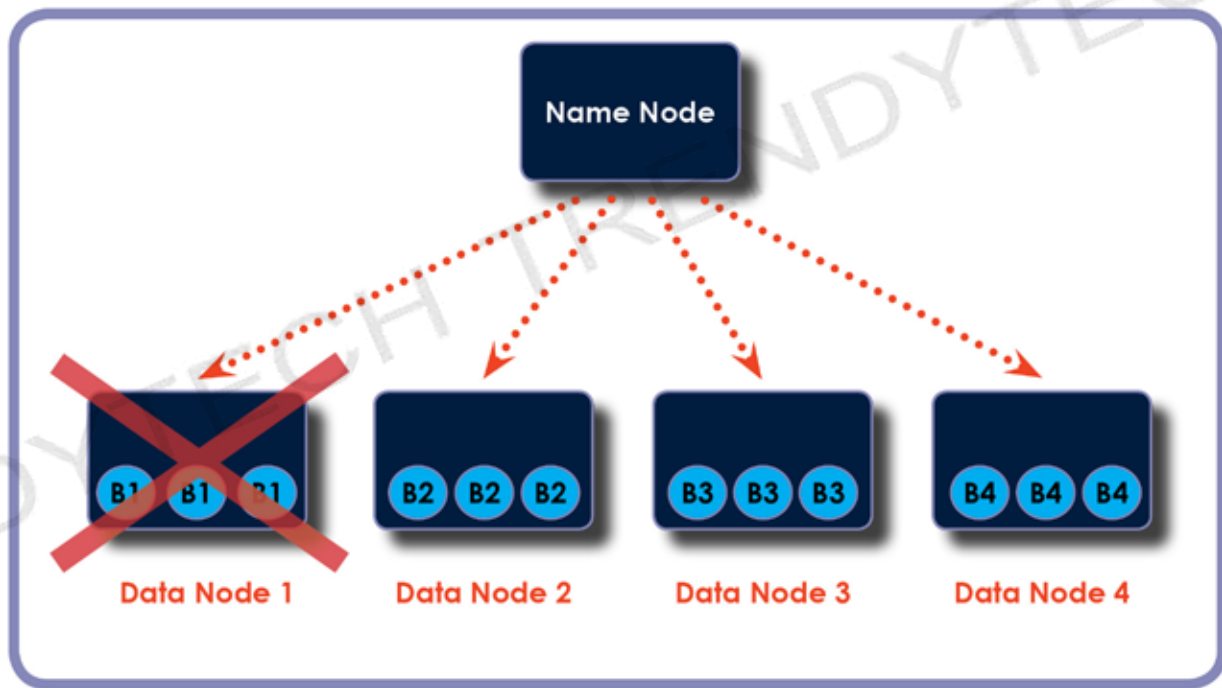
4 node Cluster

HDFS ARCHITECTURE

Replication Factor

Default Hadoop
Replication Factor:

3



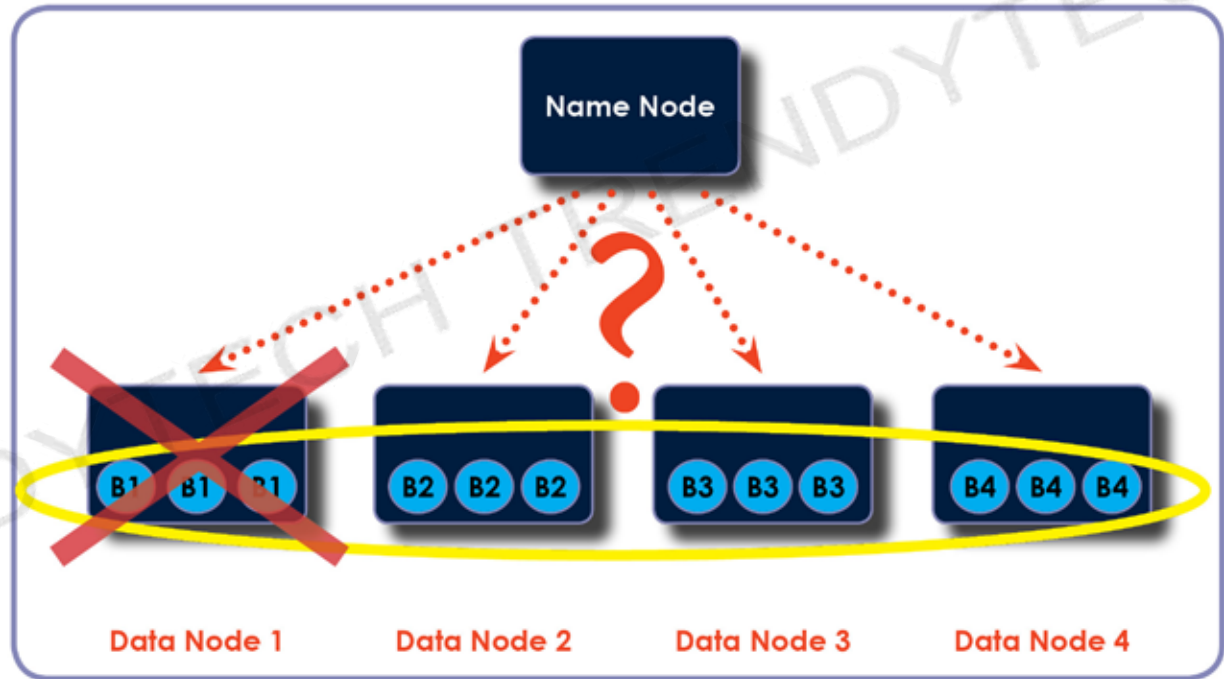
4 node Cluster

HDFS ARCHITECTURE

Replication Factor

Default Hadoop
Replication Factor:

3



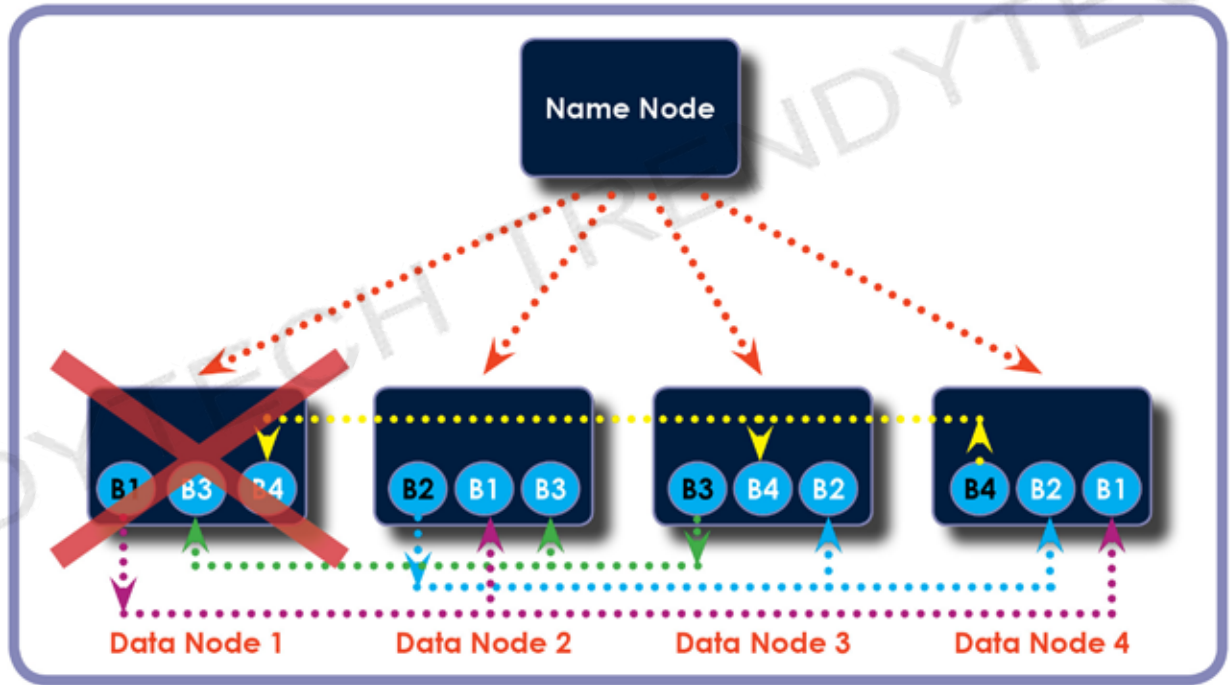
4 node Cluster

HDFS ARCHITECTURE

Replication Factor

Default Hadoop
Replication Factor:

3



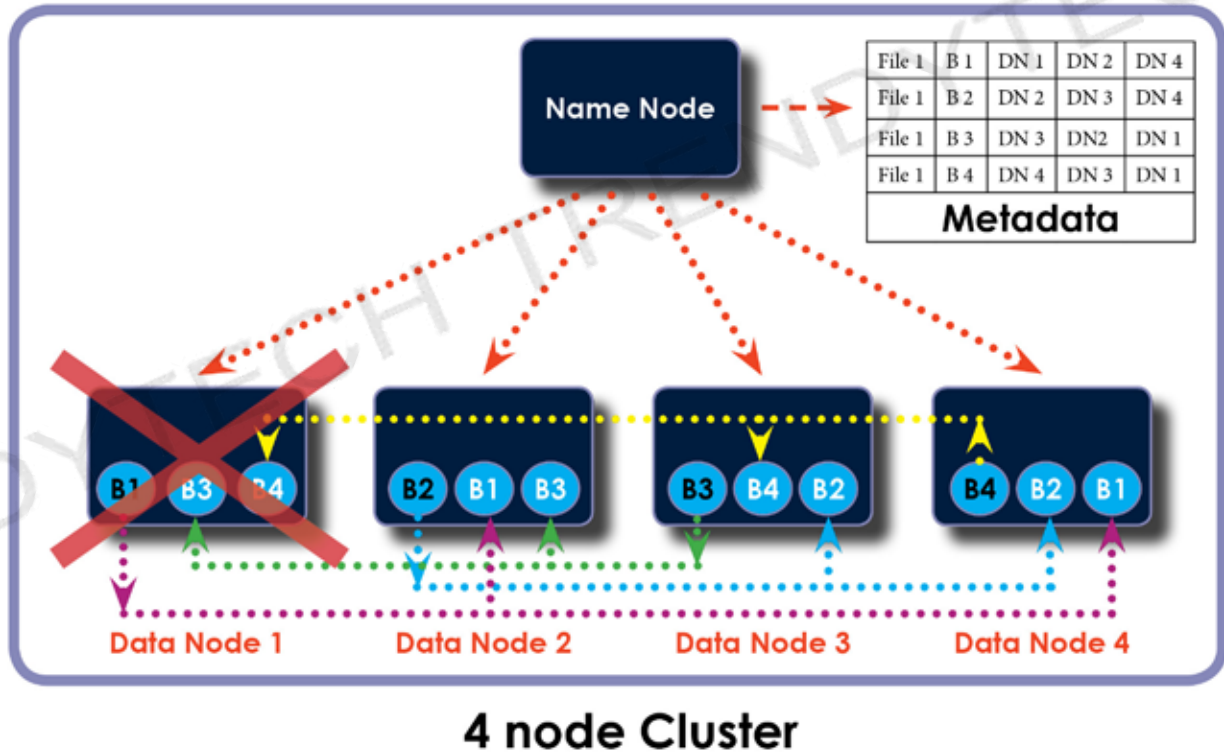
4 node Cluster

HDFS ARCHITECTURE

Replication Factor

Default Hadoop
Replication Factor:

3

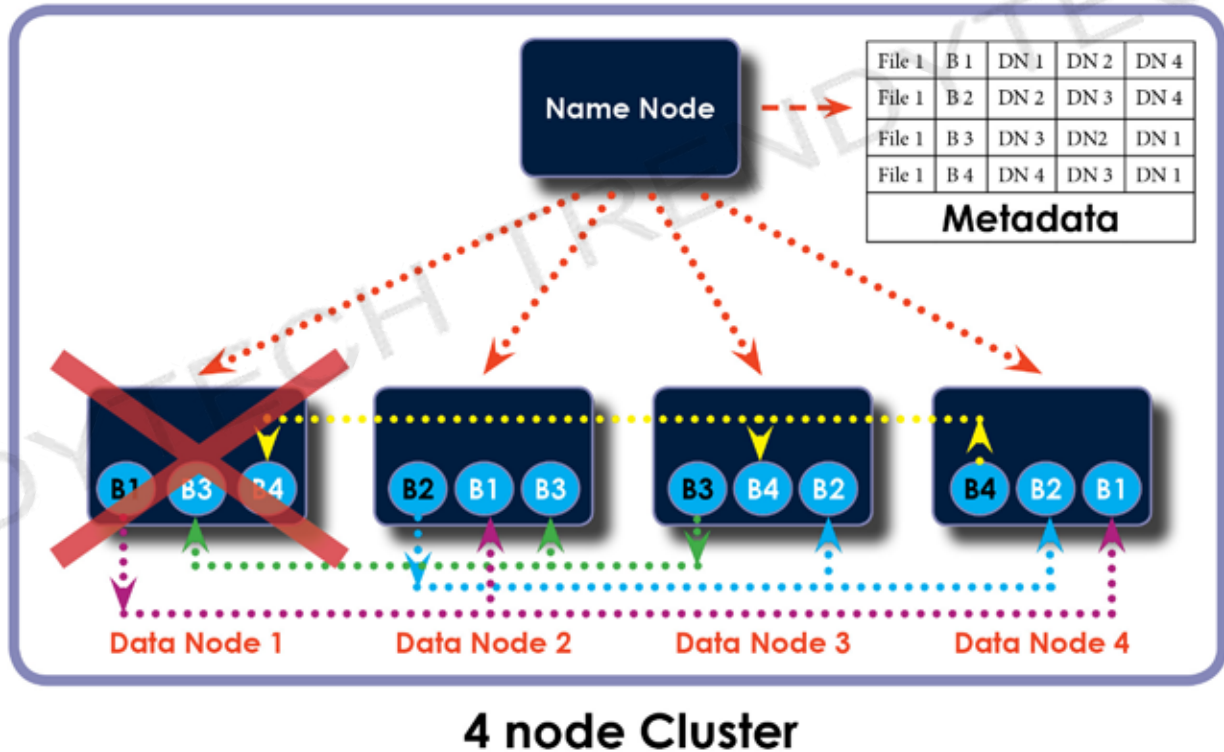


HDFS ARCHITECTURE

Replication Factor

Default Hadoop Replication Factor: **3**

We can change Replication Factor as per our requirements

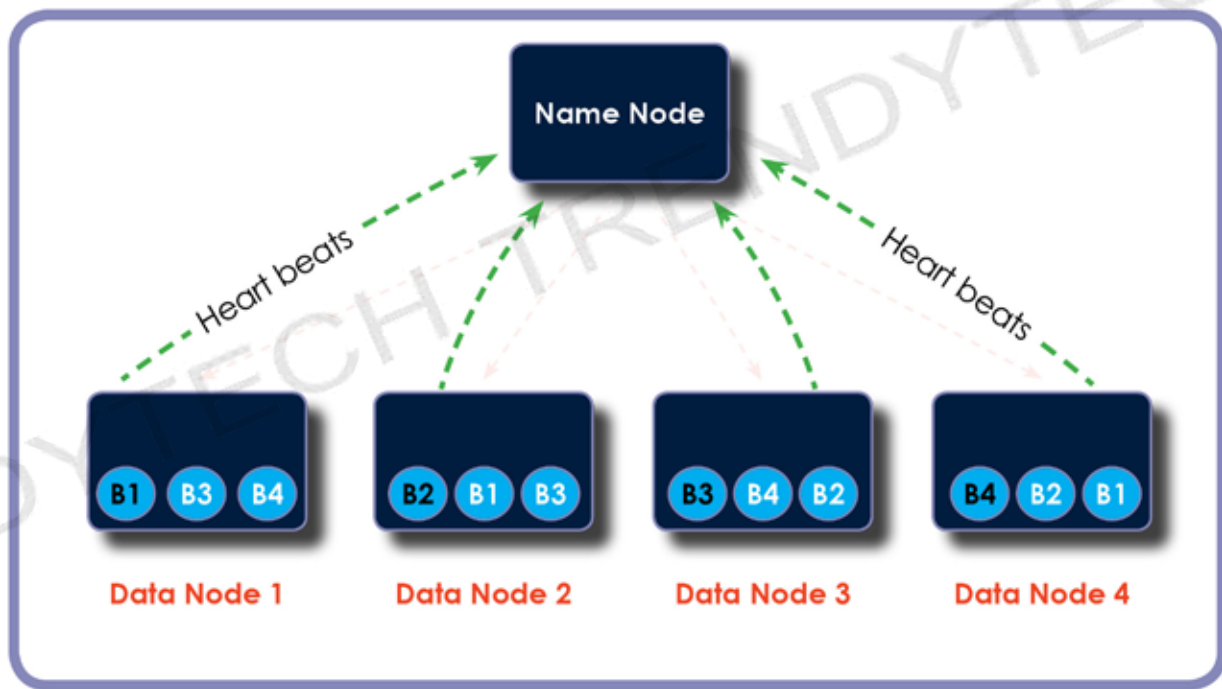


HDFS ARCHITECTURE

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

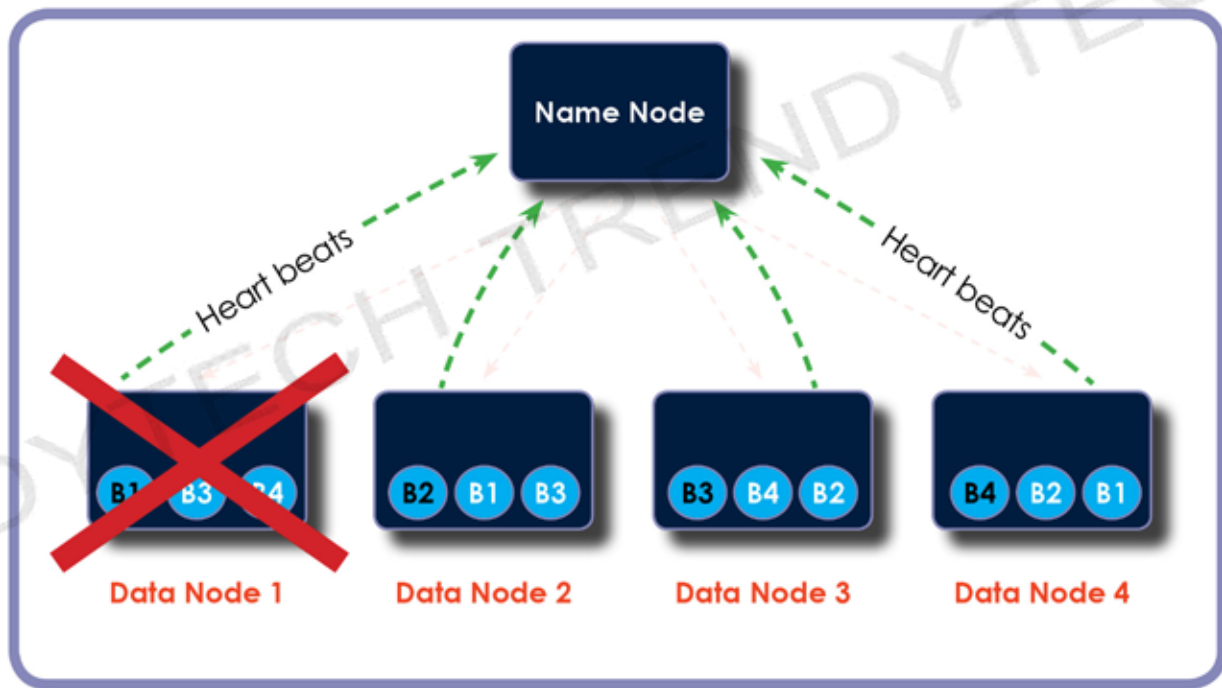


4 node Cluster

HDFS ARCHITECTURE

Fault Tolerance

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



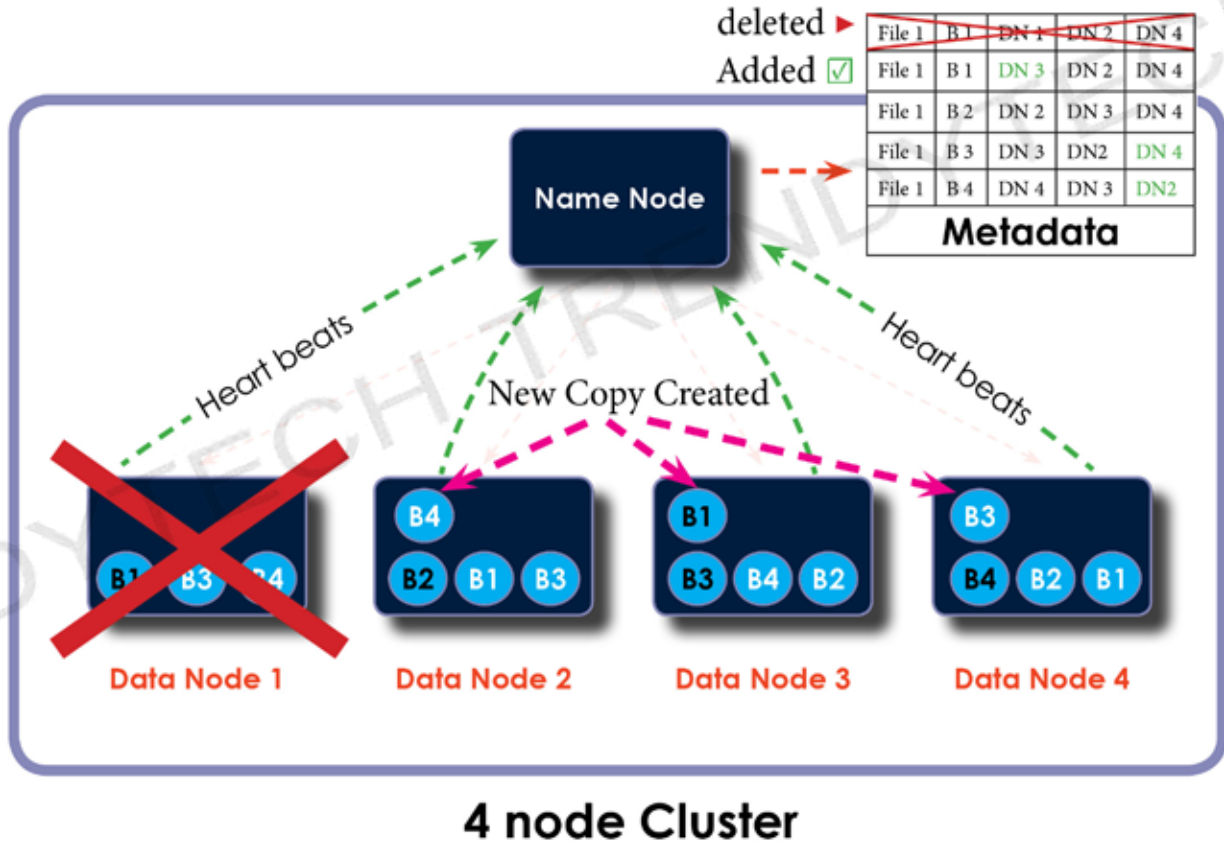
4 node Cluster

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





5 Star Google Rated
Big Data Course

LEARN FROM THE EXPERT



9108179578

Call for more details



Follow US

Trainer Mr. Sumit Mittal

Phone 9108179578

Email trendytech.sumit@gmail.com

Website <https://trendytech.in/courses/big-data-online-training/>

LinkedIn <https://www.linkedin.com/in/bigdatabysumit/>

Twitter @BigdataBySumit

Instagram bigdatabysumit

Facebook <https://www.facebook.com/trendytech.in/>

Youtube TrendyTech