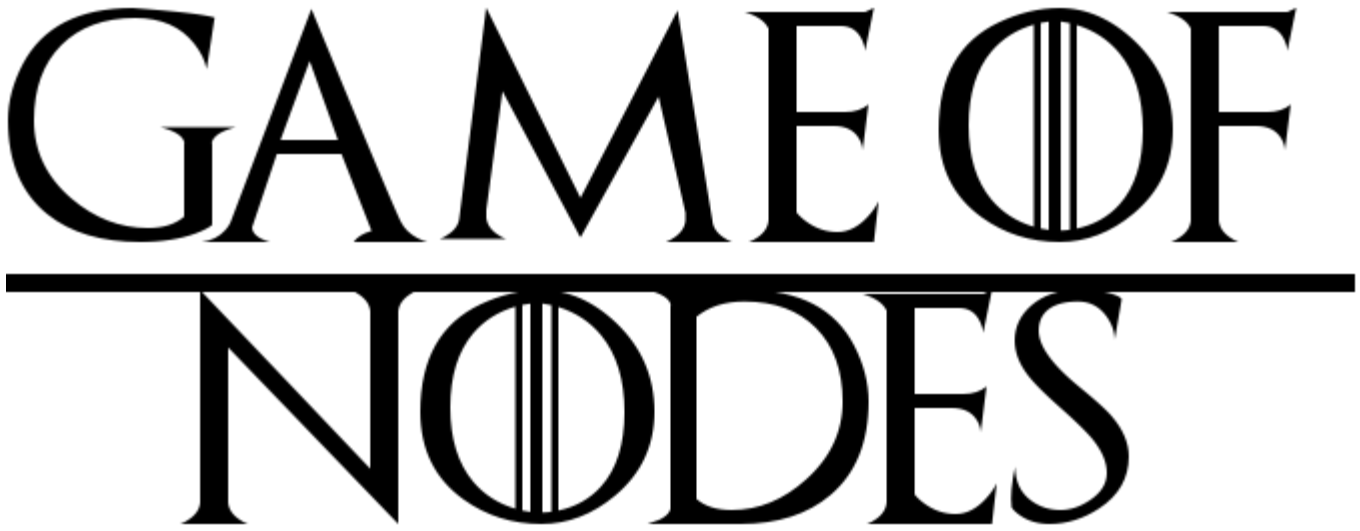

GAME OF
NODES

FEATURING


ALEXANDRE
FRUCHAUD

DELPHIN AUBIN

“Winter is coming”

“Avant on utilisait Oracle”

“Winter is coming”

MASTER & SLAVE

MASTER & SLAVE

Si le master tombe un slave prend le relais

MASTER & SLAVE

Si le master tombe un slave prend le relais

Tous les slave peuvent lire

MASTER & SLAVE

Si le master tombe un slave prend le relais

Tous les slave peuvent lire

Le master doit attendre tous les slave

“Winter is coming”

NETFLIX

"Winter is coming"

amazon

Google

facebook


DELL


NOSQL

CAP


AVAILABILITY
CONSISTENCY
PARTITION TOLERANCE

AVAILABILITY

“Toutes les requêtes reçoivent une réponse”

CONSISTENCY

“Chaque lecture lit la dernière écriture ”

PARTITION TOLERANCE

“Aucune panne ne doit empêcher le système de répondre correctement”


AVAILABILITY
CONSISTENCY
PARTITION TOLERANCE


AVAILABILITY
ORACLE
MySQL
CONSISTENCY
PARTITION TOLERANCE

AVAILABILITY

ORACLE

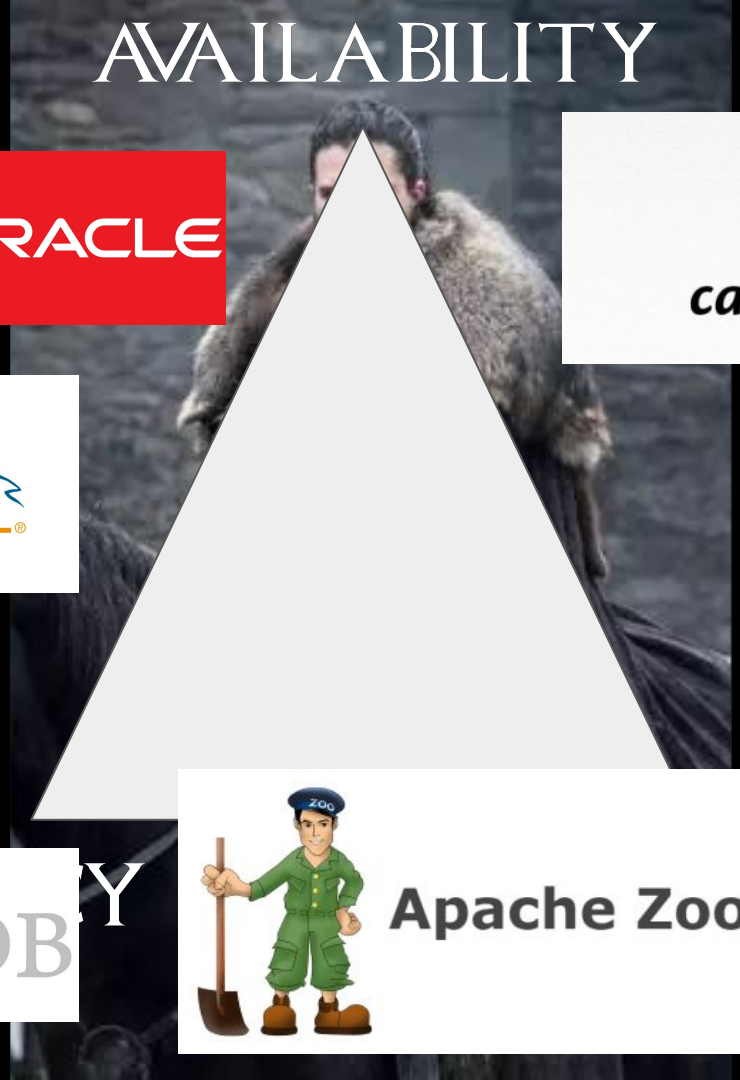
cassandra

MySQL

DNS
Domain Name System

CONSISTENCY

PARTITION TOLERANCE



AVAILABILITY

ORACLE

cassandra

MySQL

DNS
Domain Name System

mongoDB

Apache ZooKeeper™

RANCE

“L’avantage avec CAP c’est surtout que ça te permet de justifier pourquoi tu ne fais pas la 3ème lettre”

AVAILABILITY

“C’est facile d’être d’accord avec soit même”

CONSISTENCY

PARTITION TOLERANCE

AVAILABILITY

“C’est facile d’être d’accord avec soit même”

“C’est facile de dire n’importe quoi à tout le monde”

CONSISTENCY

PARTITION TOLERANCE

AVAILABILITY

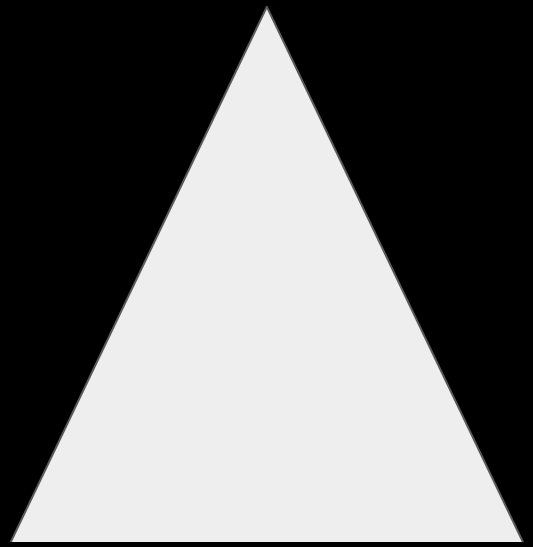
“C’est facile d’être d’accord avec soit même”

“C’est facile de dire n’importe quoi à tout le monde”

CONSISTENCY

PARTITION TOLERANCE

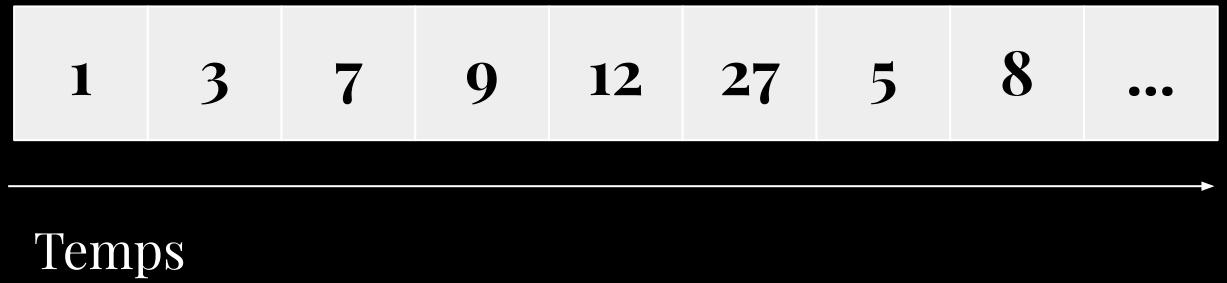
“Mettre tout le monde d’accord c’est plus dur”



RAFT

Let’s simplify !

Le log est append only




GOT CODE ?

“Le leader doit savoir si ses follower sont à jour avant de répondre ok”

“Le commit

“Le commit est le point du log

“Le commit est le point du log avant lequel toutes les entrées ont été ack

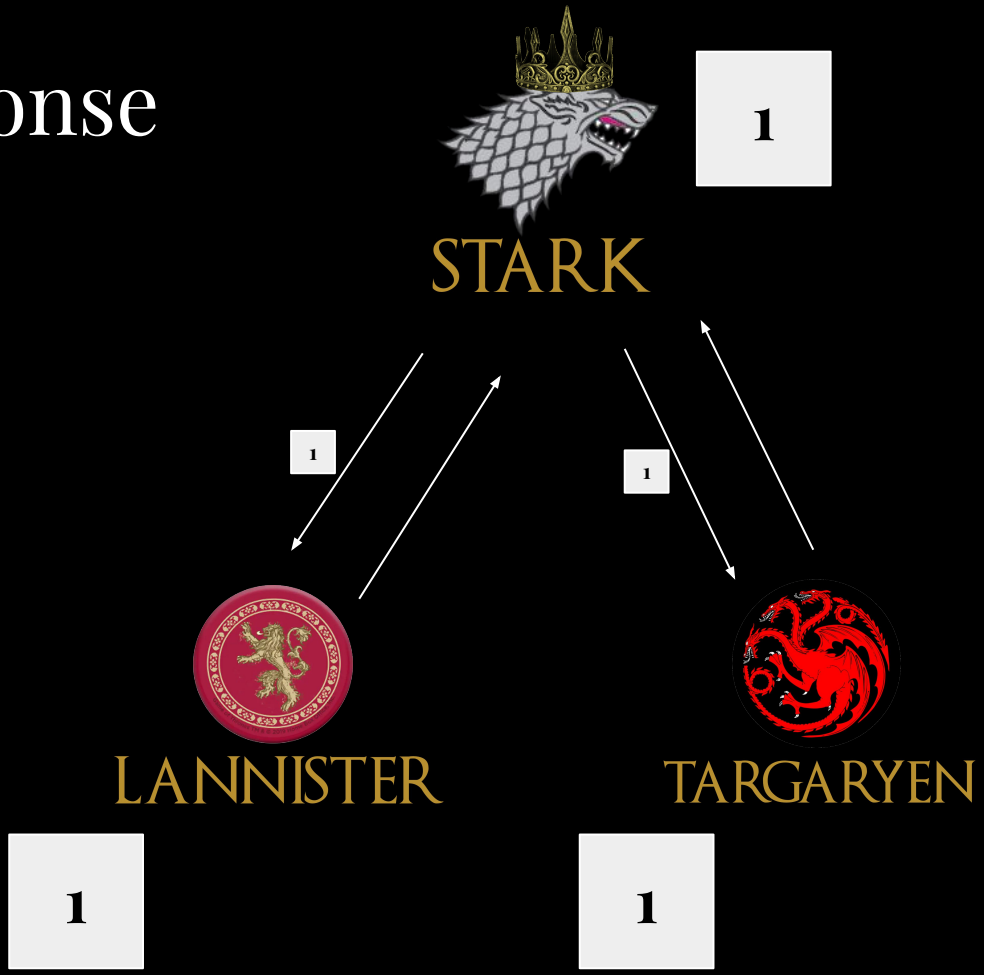
“Le commit est le point du log avant lequel toutes les entrées ont été ack par la majorité des nodes.”

STARK

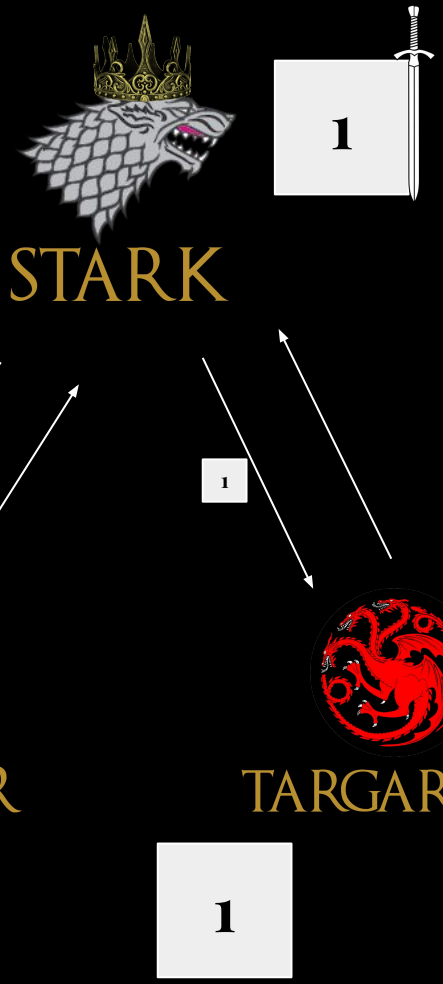
LANNISTER

TARGARYEN

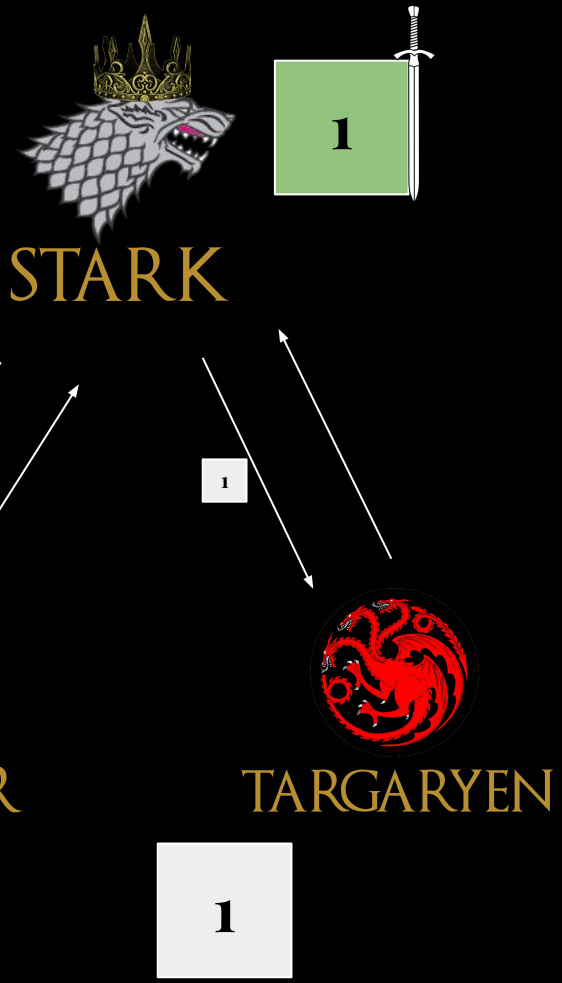
LogResponse

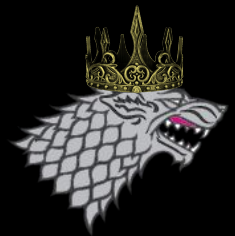


LogResponse



LogResponse





STARK

1 2

1

1

LANNISTER

TARGARYEN

1

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1 2

STARK

1 2

1 2

LANNISTER

TARGARYEN

1

1

STARK

1	2

1	2

1	2

LANNISTER

1	2

TARGARYEN

1	2

1 2

STARK

1 2

ackLength: 2

1 2

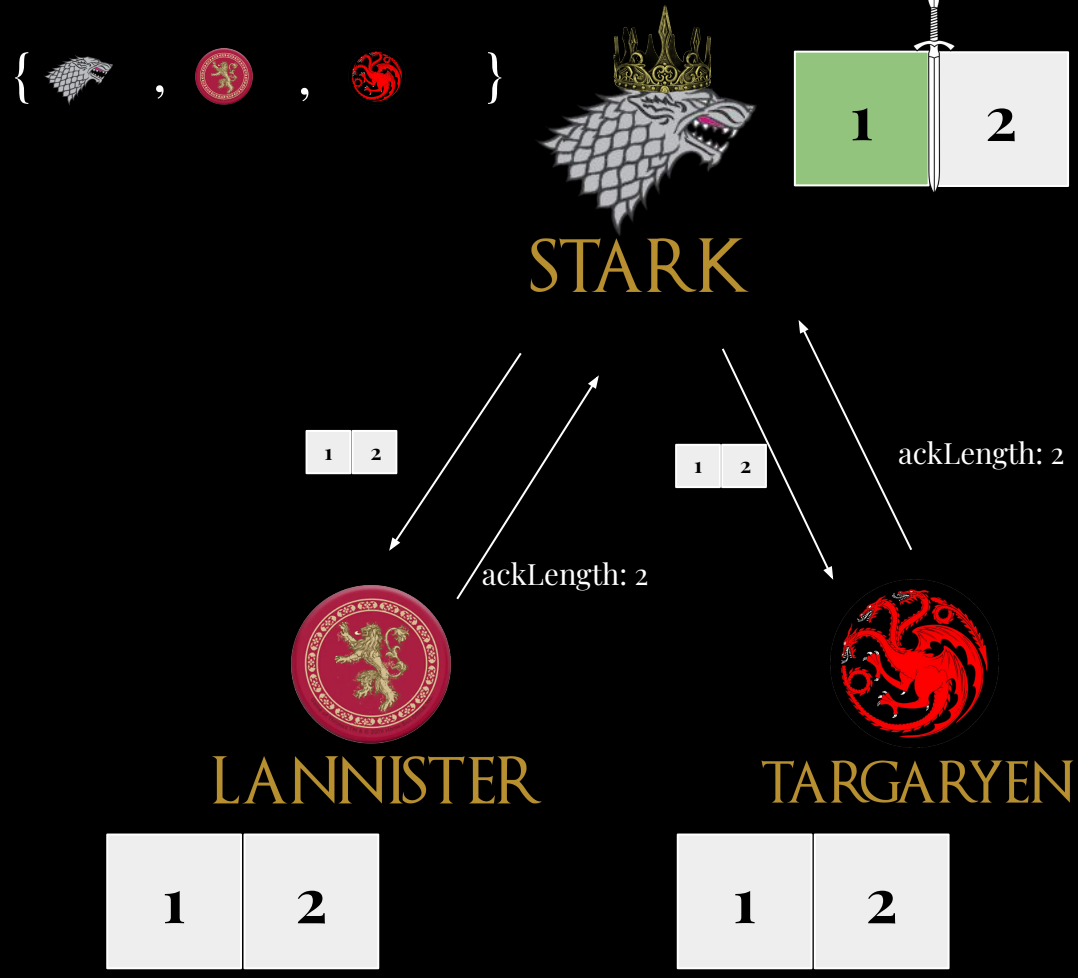
ackLength: 2

LANNISTER

TARGARYEN

1 2

1 2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ackLength: 2
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ackLength: 2
LANNISTER
TARGARYEN
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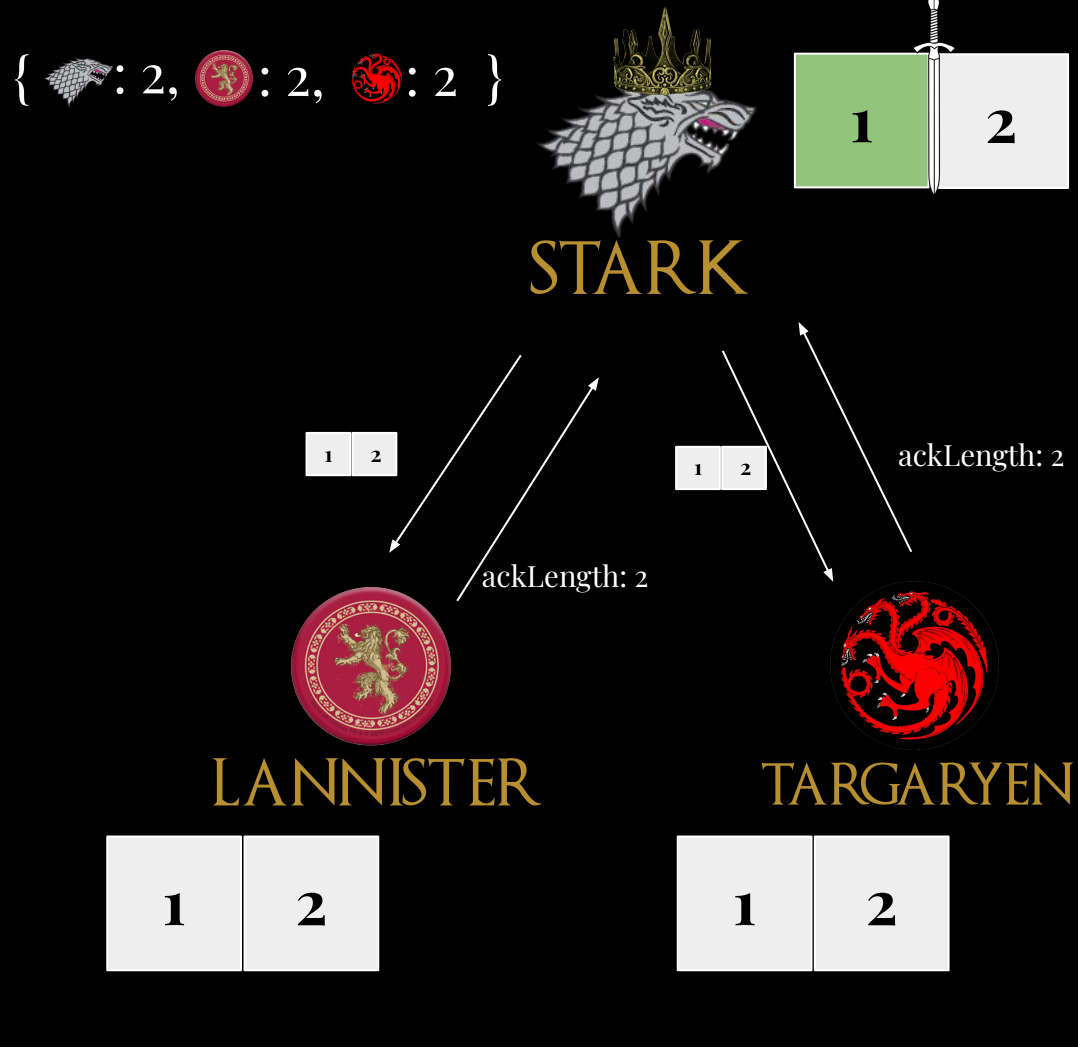
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STARK
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2
ackLength: 2
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2
ackLength: 2
LANNISTER
TARGARYEN
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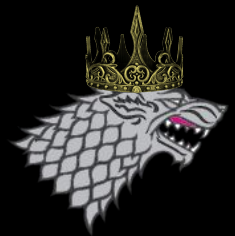
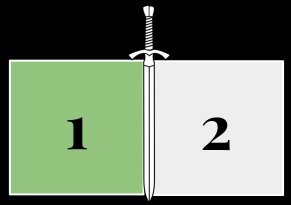
2
1
2

{ : 2, : 2, : 2 }

Majorité ?





STARK

1 2

ackLength: 2

1 2

ackLength: 2

LANNISTER

TARGARYEN

1 2

1 2

{ : 2, : 2, : 2 }

Majorité ?

1	2

STARK

1	2

ackLength: 2

1	2

ackLength: 2

LANNISTER

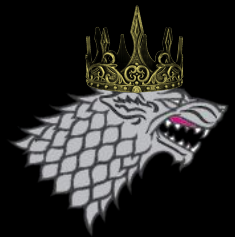
TARGARYEN

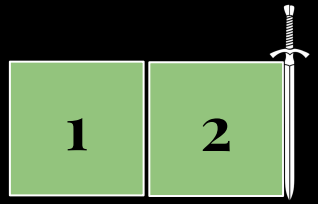
1	2

1	2

{  : 2, : 2,  : 2 }

Majorité ?





STARK

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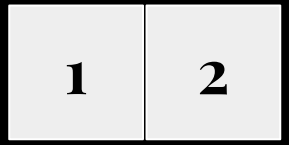
ackLength: 2

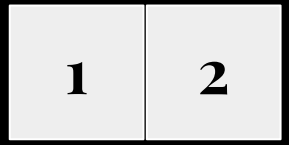
commitLength: 2

ackLength: 2

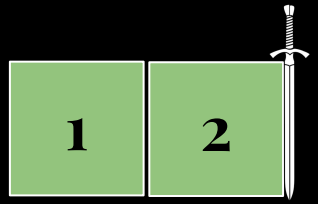
LANNISTER

TARGARYEN





Majorité ?



STARK

commitLength: 2

ackLength: 2

commitLength: 2

ackLength: 2

LANNISTER

TARGARYEN


GOT CODE ?

Ce qui nous manque pour finir RAFT

Ce qui nous manque pour finir RAFT

Le merge de log

- Le leader note où les followers en sont
- Le leader n'envoie que la section manquante du log aux follower
- Le leader traque le term de chaque entry dans le log
- Les followers truncate les logs non commités pendant un crash


EMMY
abc
EMMYS
MERCI