Basic Kafka pairwise constraint discovery results

Constraint 1

run constraint1 {
      #replicates = 0
      #stores = 0
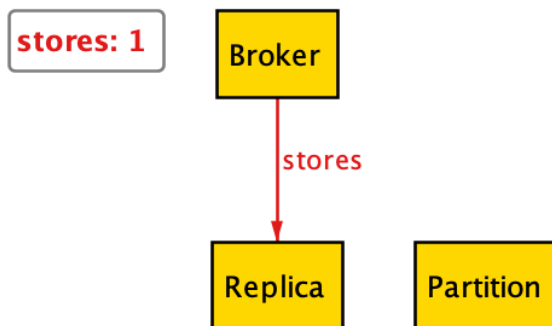}

Violation: Replica is not associated with a partition

Constraint 2

run constraint2 {
      #replicates = 0
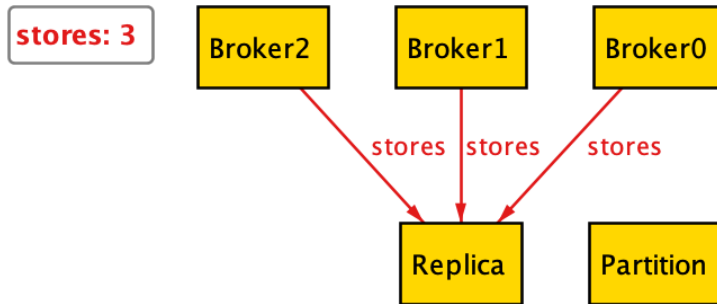   #stores = 1
}

Violation: Replica is not associated with a partition

Constraint 3

run constraint3 {
      #replicates = 0
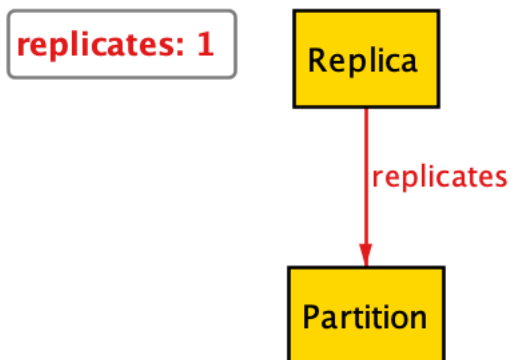   #stores >= 2
}

Violation: Same Replica stored on multiple brokers

Constraint 4

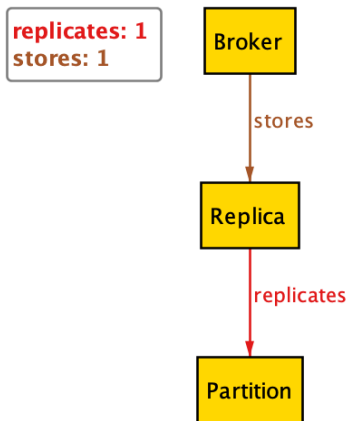run constraint4 {
      #replicates = 1
      #stores = 0
}

Legal

Constraint 5

run constraint5 {
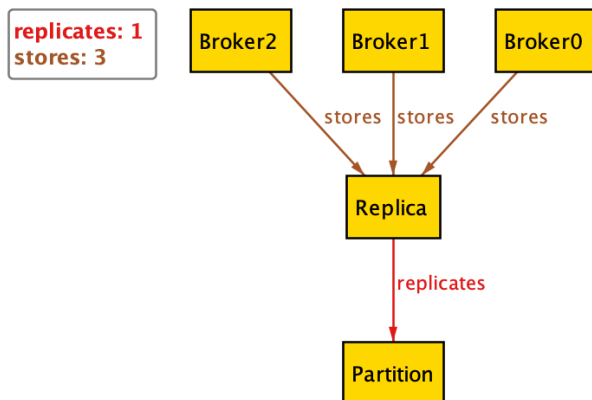   #replicates = 1
        #stores = 1
}

Legal

Constraint 6

run constraint6 {
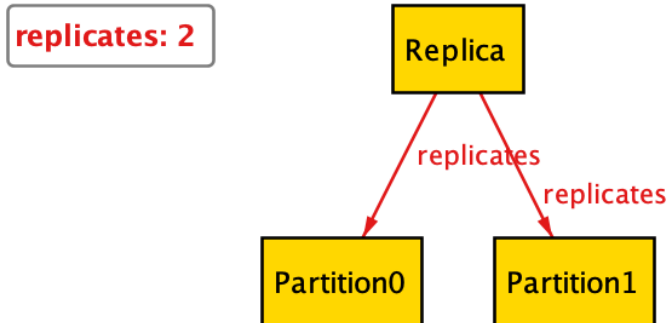   #replicates = 1
        #stores >= 2
}

Violation: Multiple brokers storing the same replica

Constraint 7
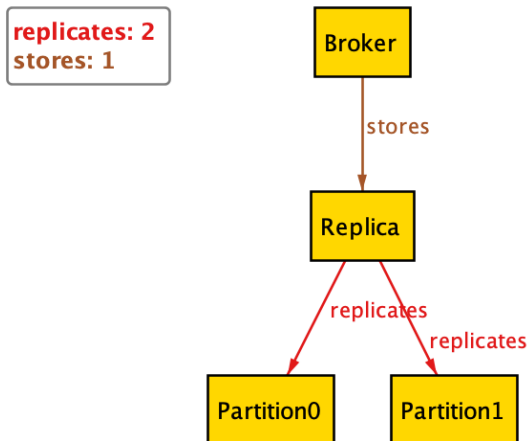
run constraint7 {
  #replicates >= 2
  #stores = 0
}

Violation: Replica replicates multiple partitions

replicates: 2

Replica

replicates

replicates

Partition0   Partition1

Constraint 8

run constraint8 {
  #replicates >= 2
  #stores = 1
}

Violation: Replica replicates multiple partitions

replicates: 2
stores: 1

Broker

stores

Replica

replicates

replicates

Partition0   Partition1

Constraint 9

```
run constraint9 {
       #replicates >= 2
       #stores >= 2
}
```

Violation: Same replica stored on multiple brokers; Replica2 not associated with a partition