

1. abstraction:NodeID
 2. crash point:before read
 3. bug type:data race
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1. timing:crash

```
1  /*system version:hadoop-2.4.0
2  *org.apache.hadoop.yarn.server.resourcemanager.scheduler.fair.
   FairScheduler$NodeAvailableResourceComparator.compare#1040
3  * no calling contex
4  */
5  private class NodeAvailableResourceComparator implements
   Comparator<NodeId> {
6      @Override
7      public int compare(NodeId n1, NodeId n2) {
8          return RESOURCE_CALCULATOR.compare(clusterCapacity,
9              nodes.get(n2).getAvailableResource(),//crash
point
10             nodes.get(n1).getAvailableResource());
11     }
12 }
```