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

```
/*sytem version:hadoop-2.8.0
2
   org.apache.hadoop.yarn.server.resourcemanager.ApplicationMaste
   rService#allocate#524
3 * need calling contex, three caller
4 * crash only cause two allocate run, and this bug can be
   probability triggered
  */
5
  /*
  private final Map<ApplicationAttemptId, RMAppAttempt> attempts
7
         = new LinkedHashMap<ApplicationAttemptId, RMAppAttempt>
   ();
  */
9
10 // will access the attempts infered from ApplicationAttemptId
11 RMAppAttempt appAttempt = app.getRMAppAttempt(appAttemptId);//
```