

索引与Null值对于Hints及执行计划的影响 PDF转换可能丢失图片或格式，建议阅读原文

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https://www.100test.com/kao_ti2020/459/2021_2022__E7_B4_A2_E5_BC_95_E4_B8_8EN_c102_459941.htm 由于B*Tree索引不存储Null值,所以在索引字段允许为空的情况下,某些Oracle查询不会使用索引. 很多时候,我们看似可以使用全索引扫描(Full Index Scan)的情况,可能Oracle就会因为Null值的存在而放弃索引. 在此情况下即使使用Hints,Oracle也不会使用索引,其根本原因就是因为在Null值的存在. 我们看以下测试. 在username字段为Not Null时,Index Hints可以生效.SQL> create table t as 0select username,password from dba_users.Table created.SQL> desc t
Name Null? Type -----
----- USERNAME NOT NULL
VARCHAR2(30) PASSWORD VARCHAR2(30)SQL> create index i_t on t(username).Index created.SQL> set autotrace trace explainSQL> 0select * from t where username=EYGLE.Execution Plan-----Plan
hash value:
1601196873-----
-----| Id | Operation | Name | Rows | Bytes | Cost
(%CPU)| Time
|-----|-----|-----|-----|-----|-----|-----
----| 0 | SELECT STATEMENT | | 1 | 34 | 2 (0) | 00:00:01 ||* 1 |
TABLE ACCESS FULL| T | 1 | 34 | 2 (0) | 00:00:01
|-----|-----|-----|-----|-----|-----|-----
----Predicate Information (identified by operation
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id):----- 1 -
 filter("USERNAME"=EYGLE)Note----- - dynamic sampling used
 for this statementSQL> set linesize 120SQL> 0select /* index(t,i_t) */
 * from t where username=EYGLE.Execution

Plan-----Plan
 hash value:
 2928007915-----

Id	Operation	Name	Rows	Bytes	Cost (%CPU)	Time
0	SELECT STATEMENT		1	34	2 (0)	00:00:01
1	TABLE ACCESS BY INDEX ROWID	T	1	34	2 (0)	00:00:01
* 2	INDEX RANGE SCAN	I_T	1	1 (0)	00:00:01	

-----Predicate Information (identified by operation

id):----- 2 -
 access("USERNAME"=EYGLE)Note----- - dynamic sampling used
 for this statement当索引字段允许为Null时,Oracle放弃此索引:
 SQL> alter table t modify (username null).Table altered.SQL>
 0select /* index(t,i_t) */ * from t.Execution

Plan-----Plan
 hash value:
 1601196873-----

Id	Operation	Name	Rows	Bytes	Cost (%CPU)	Time
----	-----------	------	------	-------	-------------	------

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----| 0 | SELECT STATEMENT | | 27 | 918 | 2 (0)| 00:00:01 || 1 |  
TABLE ACCESS FULL| T | 27 | 918 | 2 (0)| 00:00:01
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----Note----- - dynamic sampling used for this statement 当该字段为Not Null时,索引可以被强制使用: SQL> alter table t modify (username not null).Table altered.SQL> 0select /* index(t,i_t) */ * from t.Execution

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Plan-----Plan
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hash value:

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3593393735-----
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-----| Id | Operation | Name | Rows | Bytes |  
Cost (%CPU)| Time
```

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```
-----| 0 | SELECT STATEMENT | | 27 | 918 | 2 (0)| 00:00:01  
|| 1 | TABLE ACCESS BY INDEX ROWID| T | 27 | 918 | 2 (0)|  
00:00:01 || 2 | INDEX FULL SCAN | I_T | 27 | | 1 (0)| 00:00:01
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-----Note----- - dynamic sampling used for this statement

这就是Null值对于索引及查询的影响. 100Test 下载频道开通, 各类考试题目直接下载。详细请访问 www.100test.com