```
*** First, create our table from dba_tables

SQL> create table virtual_index_tab as select * from dba_tables;

Table created.


*** Now let's create our fake / virtual index ...

SQL> create index virtual_idx_tab_i on virtual_index_tab(table_name) NOSEGMENT;

Index created.


*** Let's collect statistics

SQL> exec dbms_stats.gather_table_stats(ownname=>'BOWIE', tabname=>'VIRTUAL_INDEX_TAB',
method_opt=>'FOR ALL COLUMNS SIZE 1', cascade=> true);

PL/SQL procedure successfully completed.


*** Note dba_segments and dba_indexes are not populated

SQL> select * from dba_segments where owner = 'BOWIE' and segment_name='VIRTUAL_IDX_TAB_I';

no rows selected

SQL> select * from dba_indexes where owner = 'BOWIE' and index_name='VIRTUAL_IDX_TAB_I';

no rows selected


*** But dba_objects is populated

SQL> select * from dba_objects where owner = 'BOWIE' and object_name='VIRTUAL_IDX_TAB_I';

OWNER
------------------------------
OBJECT_NAME
--------------------------------------------------------------------------------

SUBOBJECT_NAME                  OBJECT_ID DATA_OBJECT_ID OBJECT_TYPE
------------------------------ ---------- -------------- -------------------
CREATED   LAST_DDL_ TIMESTAMP           STATUS  T G S
--------- --------- ------------------- ------- - - -
BOWIE
VIRTUAL_IDX_TAB_I
                                    55481          55481 INDEX
14/JUN/07 14/JUN/07 2007-06-14:00:16:56 VALID   N N N


*** Let's see if the index is used ...

SQL> select * from virtual_index_tab where table_name = 'TAB$';


Execution Plan
----------------------------------------------------------
Plan hash value: 4272086532

-------------------------------------------------------------------------------------------
| Id  | Operation         | Name              | Rows  | Bytes | Cost (%CPU)| Time     |
-------------------------------------------------------------------------------------------
|   0 | SELECT STATEMENT  |                   |     1 |   206 |    12   (0)| 00:00:01 |
|*  1 |  TABLE ACCESS FULL| VIRTUAL_INDEX_TAB |     1 |   206 |    12   (0)| 00:00:01 |
-------------------------------------------------------------------------------------------


Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("TABLE_NAME"='TAB$')


Statistics
----------------------------------------------------------
          0  recursive calls
          0  db block gets
         53  consistent gets
```

```
          0  physical reads
          0  redo size
       3514  bytes sent via SQL*Net to client
        396  bytes received via SQL*Net from client
          2  SQL*Net roundtrips to/from client
          0  sorts (memory)
          0  sorts (disk)
          1  rows processed


*** NO. A full table scan is performed ...

*** Let's change our session so that it can see these fake indexes

SQL> alter session set "_use_nosegment_indexes" = true;

Session altered.


*** Now let's see if the index is used

SQL> select * from virtual_index_tab where table_name = 'TAB$';


Execution Plan
----------------------------------------------------------
Plan hash value: 3115255993

-------------------------------------------------------------------------------------------------------
| Id  | Operation                   | Name              | Rows  | Bytes | Cost (%CPU)| Time     |
-------------------------------------------------------------------------------------------------------
|   0 | SELECT STATEMENT            |                   |     1 |   206 |     2  (0)| 00:00:01 |
|   1 |  TABLE ACCESS BY INDEX ROWID| VIRTUAL_INDEX_TAB |     1 |   206 |     2  (0)| 00:00:01 |
|*  2 |   INDEX RANGE SCAN          | VIRTUAL_IDX_TAB_I |     1 |       |     1  (0)| 00:00:01 |
-------------------------------------------------------------------------------------------------------


Predicate Information (identified by operation id):
---------------------------------------------------

   2 - access("TABLE_NAME"='TAB$')


Statistics
----------------------------------------------------------
          0  recursive calls
          0  db block gets
         53  consistent gets
          0  physical reads
          0  redo size
       3514  bytes sent via SQL*Net to client
        396  bytes received via SQL*Net from client
          2  SQL*Net roundtrips to/from client
          0  sorts (memory)
          0  sorts (disk)
          1  rows processed


*** Well yes and no. The CBO now can see the index and has used it in its execution plan

*** BUT, the statistics show that it's still using '53 consistent gets' and is really performing a
full table scan behind the scenes.



*** Note Oracle is still clever enough to avoid a full table scan even if a fake index gets in the
way

*** Let's create a second, "real" index on the table and make fake indexes not viable to the session


SQL> create index virtual_idx_tab_i_2 on virtual_index_tab(num_rows);

Index created.

SQL> alter session set "_use_nosegment_indexes" = false;

Session altered.
```

*** Let's confirm Oracle would ordinarily use this new index with this new query based on both columns of interest

```
SQL> select * from virtual_index_tab where table_name = 'TAB$' and num_rows=388;

no rows selected


Execution Plan
----------------------------------------------------------
Plan hash value: 3209678585

-------------------------------------------------------------------------------------------------------
| Id  | Operation                   | Name                | Rows  | Bytes | Cost (%CPU)| Time     |
-------------------------------------------------------------------------------------------------------
|   0 | SELECT STATEMENT            |                     |     1 |   206 |3   (0)| 00:00:01 |
|*  1 |  TABLE ACCESS BY INDEX ROWID| VIRTUAL_INDEX_TAB   |     1 |   206 |3   (0)| 00:00:01 |
|*  2 |   INDEX RANGE SCAN          | VIRTUAL_IDX_TAB_I_2 |     6 |       |1   (0)| 00:00:01 |
-------------------------------------------------------------------------------------------------------


Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("TABLE_NAME"='TAB$')
   2 - access("NUM_ROWS"=388)


Statistics
----------------------------------------------------------
          0  recursive calls
          0  db block gets
          3  consistent gets
          0  physical reads
          0  redo size
       3172  bytes sent via SQL*Net to client
        385  bytes received via SQL*Net from client
          1  SQL*Net roundtrips to/from client
          0  sorts (memory)
          0  sorts (disk)
          0  rows processed
```

*** Yes indeed, Oracle does use the new index

*** But would it prefer the Fake index if it existed ?

```
SQL> alter session set "_use_nosegment_indexes" = true;

Session altered.

SQL> select * from virtual_index_tab where table_name = 'TAB$' and num_rows=388;

no rows selected


Execution Plan
----------------------------------------------------------
Plan hash value: 3115255993

-------------------------------------------------------------------------------------------------------
| Id  | Operation                   | Name              | Rows  | Bytes | Cost (%CPU)| Time     |
-------------------------------------------------------------------------------------------------------
|   0 | SELECT STATEMENT            |                   |     1 |   206 |      2  (0)| 00:00:01 |
|*  1 |  TABLE ACCESS BY INDEX ROWID| VIRTUAL_INDEX_TAB |     1 |   206 |      2  (0)| 00:00:01 |
|*  2 |   INDEX RANGE SCAN          | VIRTUAL_IDX_TAB_I |     1 |       |      1  (0)| 00:00:01 |
-------------------------------------------------------------------------------------------------------


Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("NUM_ROWS"=388)
   2 - access("TABLE_NAME"='TAB$')


Statistics
----------------------------------------------------------
          0  recursive calls
```

```
          0  db block gets
          3  consistent gets
          0  physical reads
          0  redo size
       3172  bytes sent via SQL*Net to client
        385  bytes received via SQL*Net from client
          1  SQL*Net roundtrips to/from client
          0  sorts (memory)
          0  sorts (disk)
          0  rows processed
```

*** Yes it would prefer the Fake index if it really existed but uses the other one instead behind the scenes as highlighted by the 3 consistent gets

*** I have this urge to rebuild this fake index ...

```
SQL> alter index virtual_idx_tab_i rebuild;
alter index virtual_idx_tab_i rebuild
*
ERROR at line 1:
ORA-08114: can not alter a fake index
```

*** But you can't as it's only a fake index ...