How to Partition a Non-partitioned / Regular / Normal Table (Doc ID 1070693.6)

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APPLIES TO:

Oracle Database - Enterprise Edition
Information in this document applies to any platform.
Checked for relevance on 24-AUG-2011

PURPOSE

You have a table that is not partitioned that you would like to make into a partitioned table. This article describes four possible methods for partitioning a non-partitioned table.

These steps can also be used to change other partitioning characteristics such as adding subpartitioning to a partitioned table.

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SCOPE

Users needing to partition a non-partitioned table.

DETAILS

We can partition a non-partitioned table in one of four ways:

> A) Export/import method.
>
> B) Insert with a subquery method
>
> C) Partition exchange method
>
> D) DBMS_REDEFINITION

Either of these four methods will create a partitioned table from an existing non-partitioned table.

A. Export/import method

1) Export your table:

```
$ exp usr/pswd tables=numbers file=exp.dmp
```

2) Drop the table:

```
SQL> drop table numbers;
```

3) Recreate the table with partitions:

```
SQL> create table numbers (qty number(3), name varchar2(15)) partition by range (qty)
(partition p1 values less than (501),
partition p2 values less than (maxvalue));
```

4) Import the table with ignore=y:

```
$ imp usr/pswd file=exp.dmp ignore=y
```

The ignore=y causes the import to skip the table creation and continues to load all rows.

B. Insert with a subquery method

1) Create a partitioned table:

```
SQL> create table partbl (qty number(3), name varchar2(15)) partition by range (qty)
(partition p1 values less than (501),partition p2 values less than (maxvalue));
```

2) Insert into the partitioned table with a subquery from the non-partitioned table:

```
SQL> insert into partbl (qty, name) select * from origtbl;
```

3) If you want the partitioned table to have the same name as the original table, then drop the original table and rename the new table:

```
SQL> drop table origtbl;
SQL> alter table partbl rename to origtbl;
```

C. Partition Exchange method

ALTER TABLE EXCHANGE PARTITION can be used to convert a partition (or subpartition) into a non-partitioned table and a non-partitioned table into a partition (or subpartition) of a partitioned table by exchanging their data and index segments.

1) Create table dummy_t as select with the required partitions

2) Alter table EXCHANGE partition partition_name with table non-partition_table;

Example

```
SQL> CREATE TABLE p_emp
```

```
2 (sal NUMBER(7,2))
3 PARTITION BY RANGE(sal)
4 (partition emp_p1 VALUES LESS THAN (2000),
5 partition emp_p2 VALUES LESS THAN (4000));

Table created.


SQL> SELECT * FROM emp;

EMPNO ENAME JOB MGR HIREDATE SAL
--------- ---------- --------- --------- --------- ---------
7369 SMITH CLERK 7902 17-DEC-80 800
7499 ALLEN SALESMAN 7698 20-FEB-81 1600
7521 WARD SALESMAN 7698 22-FEB-81 1250
7566 JONES MANAGER 7839 02-APR-81 2975
7654 MARTIN SALESMAN 7698 28-SEP-81 1250
7698 BLAKE MANAGER 7839 01-MAY-81 2850
7782 CLARK MANAGER 7839 09-JUN-81 2450
7788 SCOTT ANALYST 7566 19-APR-87 3000
7839 KING PRESIDENT 17-NOV-81 5000
7844 TURNER SALESMAN 7698 08-SEP-81 1500
7876 ADAMS CLERK 7788 23-MAY-87 1100
7900 JAMES CLERK 7698 03-DEC-81 950
7902 FORD ANALYST 7566 03-DEC-81 3000
7934 MILLER CLERK 7782 23-JAN-82 1300

14 rows selected.

SQL> CREATE TABLE dummy_y as SELECT sal FROM emp WHERE sal<2000;

Table created.

SQL> CREATE TABLE dummy_z as SELECT sal FROM emp WHERE sal BETWEEN 2000 AND 3999;

Table created.

SQL> alter table p_emp exchange partition emp_p1 with table dummy_y;

Table altered.

SQL> alter table p_emp exchange partition emp_p2 with table dummy_z;

Table altered.
```

D. DBMS_REDEFINITION

For details see

- Note 472449.1 How To Partition Existing Table Using DBMS_Redefinition
- Note 1481558.1 DBMS_REDEFINITION: Case Study for a Large Non-Partition Table to a Partition Table with Online Transactions occuring
- Note 177407.1 How to Re-Organize a Table Online

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You may use CTAS to convert non partitioned table to partitioned e.g
when you do not want to change the type and length of the columns
relative to the non partitioned table.
This method creates partitioned table and loads all the rows from the
partitioned table to the newly created partitioned table with optimized
CTAS execution plan: direct load (see LOAD AS SELECT in the exec
plan in the example below).

Example: creating partitioned table for the scott.emp table and loading
rows from it.

```
CREATE TABLE emp_part
(
 EMPNO    NOT NULL primary key,
 ENAME   ,
 JOB     ,
 MGR     ,
 HIREDATE ,
 SAL      ,
 COMM     ,
```

REFERENCES

NOTE:472449.1 - How To Partition Existing Table Using DBMS_Redefinition
NOTE:72332.1 - Diagnosing ORA-14097 On Alter Table Exchange Partition
NOTE:1481558.1 - DBMS_REDEFINITION: Case Study for a Large Non-Partition Table to a Partition Table with Online
Transactions occuring

NOTE:177407.1 - How to Re-Organize a Table Online