|  |  |  |
| --- | --- | --- |
| **General** | | |
| Partition Related Data Dictionary Objects | |  |  |  |  | | --- | --- | --- | --- | | indpart$ | indsubpart$ | partobj$ | tabpart$ | | indpart\_param$ | partlob$ | subpartcol$ | tabsubpart$ |  |  | | --- | | **DBA, ALL, & USERS** | | dba\_tab\_cols | | dba\_ind\_partitions | | dba\_ind\_subpartitions | | dba\_lob\_partitions | | dba\_lob\_subpartitions | | dba\_subpartition\_templates | | dba\_subpart\_col\_statistics | | dba\_subpart\_histograms | | dba\_subpart\_key\_columns | | dba\_tab\_partitions | | dba\_tab\_subpartitions | | |
| **Note:** Oracle supports partitioning only for tables, indexes on tables, materialized views, and indexes on materialized views. Oracle does not support partitioning of clustered tables or indexes on clustered tables. | | |
|  | | |
| **Definitions** | | |
| Partition | Decompose a table or index into smaller, more manageable pieces, called partitions. Each partition of a table or index must have the same logical attributes, such as column names, datatypes, and constraints, but each partition can have separate physical attributes such as pctfree, pctused, and tablespaces. | |
| Partition Key | Each row in a partitioned table is unambiguously assigned to a single partition. The partition key is a set of from 1 to 16 columns that determines the partition for each row. | |
| Subpartition | Partitions created within partitions. They are just partitions themselves and there is nothing special about them. | |
| Composite Partitioning | Composite partitioning is a combination of other partitioning methods. Oracle currently supports range-hash and range-list composite partitioning. | |
| Interval Partitioning | Interval partitioning is an extension to range partitioning in which, beyond a point in time, partitions are defined by an interval. Interval partitions are automatically created by the database when data is inserted into the partition. | |
| Explain Plan PSTART/PSTOP Values | |  |  | | --- | --- | | KEY(**I**) | IN subquery | | KEY(**SQ**) | Recursive subquery | | |
| Invalidating Indexes | By default, the following operations on partitions on a heap-organized table mark all global indexes as unusable:   * ADD (HASH) * COALESCE (HASH) * DROP * EXCHANGE * MERGE * MOVE * SPLIT * TRUNCATE | |
| Global Index | A single index covering all partitions. | |
| Hash Partitioning | Enables partitioning of data that does not lend itself to range or list partitioning. | |
| -- To view the numbers Oracle uses for hashing:  [SELECT](http://psoug.org/definition/SELECT.htm) program, sql\_hash\_value, prev\_hash\_value [FROM](http://psoug.org/definition/FROM.htm) gv$session; | |
| List Partitioning | Explicitly controls how rows map to partitions. You do this by specifying a list of discrete values for the partitioning key in the description for each partition. | |
| Local Index | Separate indexes for each partition. A local index can be unique. However, in order for a local index to be unique, the partitioning key of the table must be part of the index's key columns. Unique local indexes are useful for OLTP environments. You cannot explicitly add a partition to a local index. Instead, new partitions are added to local indexes only when you add a partition to the underlying table. | |
| Range Partitioning | Maps data to partitions based on ranges of partition key values that you establish for each partition. | |
| Referential Partitioning | Data is mapped to partitions based on values defined in a referential constraint (foreign key) | |
| Partitioning Pruning | Oracle optimizes SQL statements to mark the partitions or subpartitions that need to be accessed and eliminates (prunes) unnecessary partitions or subpartitions from access. Partition pruning is the skipping of unnecessary index and data partitions or subpartitions by a query. | |
|  | | |
| **Demo Tablespaces** | | |
| Create demo tablespaces | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1 DATAFILE 'c: emp\part01.dbf' SIZE 10M BLOCKSIZE 8192 EXTENT MANAGEMENT LOCAL UNIFORM SIZE 256K SEGMENT SPACE MANAGEMENT AUTO ONLINE;  [CREATE](http://psoug.org/definition/CREATE.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2 DATAFILE 'c: emp\part02.dbf' SIZE 10M BLOCKSIZE 8192 EXTENT MANAGEMENT LOCAL UNIFORM SIZE 256K SEGMENT SPACE MANAGEMENT AUTO ONLINE;  [CREATE](http://psoug.org/definition/CREATE.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3 DATAFILE 'c: emp\part03.dbf' SIZE 10M BLOCKSIZE 8192 EXTENT MANAGEMENT LOCAL UNIFORM SIZE 256K SEGMENT SPACE MANAGEMENT AUTO ONLINE;  [CREATE](http://psoug.org/definition/CREATE.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part4 DATAFILE 'c: emp\part04.dbf' SIZE 10M BLOCKSIZE 8192 EXTENT MANAGEMENT LOCAL UNIFORM SIZE 256K SEGMENT SPACE MANAGEMENT AUTO ONLINE;  [ALTER](http://psoug.org/definition/ALTER.htm) [USER](http://psoug.org/definition/USER.htm) uwclass QUOTA UNLIMITED ON part1; [ALTER](http://psoug.org/definition/ALTER.htm) [USER](http://psoug.org/definition/USER.htm) uwclass QUOTA UNLIMITED ON part2; [ALTER](http://psoug.org/definition/ALTER.htm) [USER](http://psoug.org/definition/USER.htm) uwclass QUOTA UNLIMITED ON part3; [ALTER](http://psoug.org/definition/ALTER.htm) [USER](http://psoug.org/definition/USER.htm) uwclass QUOTA UNLIMITED ON part4; | |
| Drop demo tablespaces | [DROP](http://psoug.org/definition/DROP.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1 INCLUDING CONTENTS [AND](http://psoug.org/definition/AND.htm) DATAFILES; [DROP](http://psoug.org/definition/DROP.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2 INCLUDING CONTENTS [AND](http://psoug.org/definition/AND.htm) DATAFILES; [DROP](http://psoug.org/definition/DROP.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3 INCLUDING CONTENTS [AND](http://psoug.org/definition/AND.htm) DATAFILES; [DROP](http://psoug.org/definition/DROP.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part4 INCLUDING CONTENTS [AND](http://psoug.org/definition/AND.htm) DATAFILES; | |
|  | | |
| **Table Partitions** | | |
| Hash Partitioned Table | | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) hash\_part ( prof\_history\_id  [NUMBER](http://psoug.org/definition/NUMBER.htm)(10), person\_id        [NUMBER](http://psoug.org/definition/NUMBER.htm)(10) [NOT](http://psoug.org/definition/NOT.htm) NULL, organization\_id  [NUMBER](http://psoug.org/definition/NUMBER.htm)(10) [NOT](http://psoug.org/definition/NOT.htm) NULL, record\_date      [DATE](http://psoug.org/definition/DATE.htm) [NOT](http://psoug.org/definition/NOT.htm) NULL, prof\_hist\_comments [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(2000)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY HASH (prof\_history\_id) PARTITIONS 3 STORE IN (part1, part2, part3);  desc hash\_part  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, tablespace\_name, partitioned [FROM](http://psoug.org/definition/FROM.htm) user\_tables;  desc user\_tab\_partitions  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions; |
| Interval-Numeric Range Partitioned Table  Also possible are Interval-Hash and Interval-List | | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) interval\_part ( person\_id   [NUMBER](http://psoug.org/definition/NUMBER.htm)(5) [NOT](http://psoug.org/definition/NOT.htm) NULL, first\_name  [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(30), last\_name   [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(30)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE (person\_id) [INTERVAL](http://psoug.org/definition/INTERVAL.htm) (100) STORE IN (uwdata) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) p1 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (101)) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata;  desc interval\_part  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, tablespace\_name, partitioned [FROM](http://psoug.org/definition/FROM.htm) user\_tables;  col high\_value format a20  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) interval\_part (person\_id, first\_name, last\_name) [VALUES](http://psoug.org/definition/VALUES.htm) (100, 'Dan', 'Morgan');  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) interval\_part (person\_id, first\_name, last\_name) [VALUES](http://psoug.org/definition/VALUES.htm) (101, 'Heli', 'Helskyaho');  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) interval\_part (person\_id, first\_name, last\_name) [VALUES](http://psoug.org/definition/VALUES.htm) (567, 'Tara', 'Havemeyer');  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions; |
| Interval-Date Range Partitioned Table | | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) interval\_date ( person\_id [NUMBER](http://psoug.org/definition/NUMBER.htm)(5) [NOT](http://psoug.org/definition/NOT.htm) NULL, last\_name [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(30), dob [DATE](http://psoug.org/definition/DATE.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE (dob) [INTERVAL](http://psoug.org/definition/INTERVAL.htm) (NUMTOYM[INTERVAL](http://psoug.org/definition/INTERVAL.htm)(1,'MONTH')) STORE IN (uwdata) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) p1 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('2008-03-15','YYYY-MM-DD')));  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) interval\_date (person\_id, last\_name, dob) [VALUES](http://psoug.org/definition/VALUES.htm) (1, 'Morgan', [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-365);  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) interval\_date (person\_id, last\_name, dob) [VALUES](http://psoug.org/definition/VALUES.htm) (2, 'Lofstrom', [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-365);  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) interval\_date (person\_id, last\_name, dob) [VALUES](http://psoug.org/definition/VALUES.htm) (3, 'Havemeyer', [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-200);  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) interval\_date (person\_id, last\_name, dob) [VALUES](http://psoug.org/definition/VALUES.htm) (4, 'Small', [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-60);  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) interval\_date (person\_id, last\_name, dob) [VALUES](http://psoug.org/definition/VALUES.htm) (5, 'Ellison', [SYSDATE](http://psoug.org/definition/SYSDATE.htm)+60);  col partition\_name format a14 col tablespace\_name format a15 col high\_value format a85  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions; |
| List Partitioned Table (add tablespace names and change table name) | | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) list\_part ( deptno          [NUMBER](http://psoug.org/definition/NUMBER.htm)(10),  deptname        [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(20), quarterly\_sales [NUMBER](http://psoug.org/definition/NUMBER.htm)(10,2), state           [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(2)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY LIST (state) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_northwest [VALUES](http://psoug.org/definition/VALUES.htm) ('OR', 'WA') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_southwest [VALUES](http://psoug.org/definition/VALUES.htm) ('AZ', 'CA', 'NM') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part2, [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_northeast [VALUES](http://psoug.org/definition/VALUES.htm) ('NY', 'VT', 'NJ') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part1, [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_southeast [VALUES](http://psoug.org/definition/VALUES.htm) ('FL', 'GA') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_northcent [VALUES](http://psoug.org/definition/VALUES.htm) ('MN', 'WI') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_southcent [VALUES](http://psoug.org/definition/VALUES.htm) ('OK', 'TX') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part2);  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, tablespace\_name, partitioned [FROM](http://psoug.org/definition/FROM.htm) user\_tables;  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) list\_part [VALUES](http://psoug.org/definition/VALUES.htm) (10, 'A', 1000, 'OR'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) list\_part [VALUES](http://psoug.org/definition/VALUES.htm) (20, 'B', 1000, 'AZ'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) list\_part [VALUES](http://psoug.org/definition/VALUES.htm) (10, 'A', 1000, 'WA'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) list\_part [VALUES](http://psoug.org/definition/VALUES.htm) (20, 'B', 1000, 'WA'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) list\_part [VALUES](http://psoug.org/definition/VALUES.htm) (10, 'A', 1000, 'AZ'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) list\_part [VALUES](http://psoug.org/definition/VALUES.htm) (20, 'B', 1000, 'CA'); [COMMIT](http://psoug.org/definition/COMMIT.htm);  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) list\_part;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) list\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (q1\_northwest); |
| Range Partitioned Table - By Date | | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part ( prof\_history\_id [NUMBER](http://psoug.org/definition/NUMBER.htm)(10), person\_id       [NUMBER](http://psoug.org/definition/NUMBER.htm)(10) [NOT](http://psoug.org/definition/NOT.htm) NULL, organization\_id [NUMBER](http://psoug.org/definition/NUMBER.htm)(10) [NOT](http://psoug.org/definition/NOT.htm) NULL, record\_date     [DATE](http://psoug.org/definition/DATE.htm) [NOT](http://psoug.org/definition/NOT.htm) NULL) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE (record\_date) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) yr0 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-2007','DD-MON-YYYY')) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, [PARTITION](http://psoug.org/definition/PARTITION.htm) yr7 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-2008','DD-MON-YYYY')) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, [PARTITION](http://psoug.org/definition/PARTITION.htm) yr8 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-2009','DD-MON-YYYY')) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3, [PARTITION](http://psoug.org/definition/PARTITION.htm) yr9 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (MAXVALUE) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part4);  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, tablespace\_name, partitioned [FROM](http://psoug.org/definition/FROM.htm) user\_tables;  col part\_name format a9 col tbsp\_name format a9  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name PART\_NAME, tablespace\_name TBSP\_NAME, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_PART';  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-720);  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (2, 2, 2, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-360); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (3, 3, 3, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-180); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (4, 4, 4, [SYSDATE](http://psoug.org/definition/SYSDATE.htm));  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr0); [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr7); [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr8); [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr9);  conn / as sysdba  [ALTER](http://psoug.org/definition/ALTER.htm) SESSION SET tracefile\_identifier = 'range\_part'; [ALTER](http://psoug.org/definition/ALTER.htm) SESSION SET EVENTS '10128 trace name context forever, level 1'; [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) uwclass.range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr8); [ALTER](http://psoug.org/definition/ALTER.htm) SESSION SET SQL\_TRACE=FALSE;   |  | | --- | | Trace file c:\oracle\product\diag dbms\orabase\orabase race\orabase\_ora\_2976\_range\_part.trc Oracle Database 11g Enterprise Edition Release 11.1.0.6.0 - Production       q With the Partitioning, Oracle Label Security, OLAP, Data Mining, Oracle Database Vault and Real Application Testing options Windows XP Version V5.1 Service Pack 3 CPU : 1 - type 586, 1 Physical Cores Process Affinity : 0x00000000 Memory (Avail/Total): Ph:674M/2038M, Ph+PgF:2777M/3932M, VA:1275M/2047M Instance name: orabase Redo thread mounted by this instance: 1 Oracle process number: 24 Windows thread id: 2976, image: ORACLE.EXE (SHAD)  \*\*\* 2008-12-17 23:24:21.421 \*\*\* SESSION ID:(137.1810) 2008-12-17 23:24:21.421 \*\*\* CLIENT ID:() 2008-12-17 23:24:21.421 \*\*\* SERVICE NAME:(SYS$USERS) 2008-12-17 23:24:21.421 \*\*\* MODULE NAME:(sqlplusw.exe) 2008-12-17 23:24:21.421 \*\*\* ACTION NAME:() 2008-12-17 23:24:21.421  partition pruning descriptor: type = 0, level = 1 flags = {single, known, set by parser, } partition mapping descriptor: partitioning method = range number of partitions = 4 number of partitioning keys = 1 partitioning columns = (4) partition pruning descriptor: type = 0, level = 1 flags = {single, known, set by parser, } partition mapping descriptor: partitioning method = range number of partitions = 4 number of partitioning keys = 1 partitioning columns = (4) partition pruning descriptor: type = 0, level = 1 flags = {single, known, set by parser, } partition mapping descriptor: partitioning method = range number of partitions = 4 number of partitioning keys = 1 partitioning columns = (4) partition pruning descriptor: type = 0, level = 1 flags = {single, known, set by parser, } partition mapping descriptor: partitioning method = range number of partitions = 4 number of partitioning keys = 1 partitioning columns = (4)  \*\*\* 2008-12-17 23:24:42.453 Partition Iterator Information: partition level = [PARTITION](http://psoug.org/definition/PARTITION.htm)  call time = RUN order = ASCENDING Partition iterator for level 1: iterator = RANGE [2, 2] index = 2 current partition: part# = 2, subp# = 1048576, abs# = 2  \*\*\* 2008-12-17 23:25:04.359 Partition Iterator Information: partition level = [PARTITION](http://psoug.org/definition/PARTITION.htm)  call time = RUN order = ASCENDING Partition iterator for level 1: iterator = RANGE [2, 2] index = 2 current partition: part# = 2, subp# = 1048576, abs# = 2  \*\*\* 2008-12-17 23:25:53.437 Partition Iterator Information: partition level = [PARTITION](http://psoug.org/definition/PARTITION.htm)  call time = RUN order = ASCENDING Partition iterator for level 1: iterator = RANGE [2, 2] index = 2 current partition: part# = 2, subp# = 1048576, abs# = 2 |   x |
| Range Partitioned Table - By Alpha | | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) students ( student\_id [NUMBER](http://psoug.org/definition/NUMBER.htm)(6), student\_fn [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(25), student\_ln [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(25), PRIMARY KEY (student\_id)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE (student\_ln) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) student\_ae [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ('F%') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part1, [PARTITION](http://psoug.org/definition/PARTITION.htm) student\_fl [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ('M%') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part2, [PARTITION](http://psoug.org/definition/PARTITION.htm) student\_mr [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ('S%') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part3, [PARTITION](http://psoug.org/definition/PARTITION.htm) student\_sz [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (MAXVALUE) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part4);  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, tablespace\_name, partitioned [FROM](http://psoug.org/definition/FROM.htm) user\_tables;  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions; |
| Referential Partitioned Table | | [SELECT](http://psoug.org/definition/SELECT.htm) [MIN](http://psoug.org/definition/MIN.htm)(num\_rows), [MAX](http://psoug.org/definition/MAX.htm)(num\_rows) [FROM](http://psoug.org/definition/FROM.htm) all\_tables [WHERE](http://psoug.org/definition/WHERE.htm) num\_rows IS [NOT](http://psoug.org/definition/NOT.htm) NULL;  [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) ref\_parent ( table\_name   [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(30), order\_date   [DATE](http://psoug.org/definition/DATE.htm), num\_rows     [NUMBER](http://psoug.org/definition/NUMBER.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE(num\_rows) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) num\_rows1 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (100) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, [PARTITION](http://psoug.org/definition/PARTITION.htm) num\_rows2 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (1000) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part2, [PARTITION](http://psoug.org/definition/PARTITION.htm) num\_rows3 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (10000) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part3, [PARTITION](http://psoug.org/definition/PARTITION.htm) num\_rows4 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (MAXVALUE) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part4);  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) ref\_parent ADD [CONSTRAINT](http://psoug.org/definition/CONSTRAINT.htm) pk\_ref\_parent PRIMARY KEY (table\_name) USING [INDEX](http://psoug.org/definition/INDEX.htm);  desc ref\_parent  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, tablespace\_name, partitioned [FROM](http://psoug.org/definition/FROM.htm) user\_tables;  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) ref\_child ( table\_name [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(30) [NOT](http://psoug.org/definition/NOT.htm) NULL, index\_name [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(30) [NOT](http://psoug.org/definition/NOT.htm) NULL, [CONSTRAINT](http://psoug.org/definition/CONSTRAINT.htm) fk\_ref\_child\_parent FOREIGN KEY(table\_name) REFERENCES ref\_parent(table\_name)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY REFERENCE(fk\_ref\_child\_parent);  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partitioning\_type, ref\_ptn\_constraint\_name [FROM](http://psoug.org/definition/FROM.htm) user\_part\_tables [WHERE](http://psoug.org/definition/WHERE.htm) table\_name [LIKE](http://psoug.org/definition/LIKE.htm) 'REF%'; |
| Partition by System | | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) syst\_part ( tx\_id   [NUMBER](http://psoug.org/definition/NUMBER.htm)(5), begdate [DATE](http://psoug.org/definition/DATE.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY SYSTEM ( [PARTITION](http://psoug.org/definition/PARTITION.htm) p1 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, [PARTITION](http://psoug.org/definition/PARTITION.htm) p2 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, [PARTITION](http://psoug.org/definition/PARTITION.htm) p3 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3);  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) syst\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-10);  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) syst\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (p1) [VALUES](http://psoug.org/definition/VALUES.htm) (1, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-10); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) syst\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (p2) [VALUES](http://psoug.org/definition/VALUES.htm) (2, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) syst\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (p3) [VALUES](http://psoug.org/definition/VALUES.htm) (3, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)+10);  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) syst\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (p2); |
| Partition by Virtual Column | | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) vcol\_part ( tx\_id   [NUMBER](http://psoug.org/definition/NUMBER.htm)(5), begdate [DATE](http://psoug.org/definition/DATE.htm), enddate [DATE](http://psoug.org/definition/DATE.htm), staylen [NUMBER](http://psoug.org/definition/NUMBER.htm)(5) [AS](http://psoug.org/definition/AS.htm) (enddate-begdate)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE (staylen) [INTERVAL](http://psoug.org/definition/INTERVAL.htm) (10) STORE IN (uwdata) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) p1 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (11)) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata;  desc vcol\_part  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, tablespace\_name, partitioned [FROM](http://psoug.org/definition/FROM.htm) user\_tables;  col high\_value format a20  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  desc user\_tab\_cols  [SELECT](http://psoug.org/definition/SELECT.htm) column\_name, virtual\_column, data\_default [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_cols [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'VCOL\_PART';  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) vcol\_part (tx\_id, begdate, enddate) [VALUES](http://psoug.org/definition/VALUES.htm) (1, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-5, [SYSDATE](http://psoug.org/definition/SYSDATE.htm));  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) vcol\_part (tx\_id, begdate, enddate) [VALUES](http://psoug.org/definition/VALUES.htm) (2, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-10, [SYSDATE](http://psoug.org/definition/SYSDATE.htm));  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) vcol\_part (tx\_id, begdate, enddate) [VALUES](http://psoug.org/definition/VALUES.htm) (3, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-15, [SYSDATE](http://psoug.org/definition/SYSDATE.htm));  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) vcol\_part (tx\_id, begdate, enddate) [VALUES](http://psoug.org/definition/VALUES.htm) (4, [SYSDATE](http://psoug.org/definition/SYSDATE.htm)-25, [SYSDATE](http://psoug.org/definition/SYSDATE.htm));  [COMMIT](http://psoug.org/definition/COMMIT.htm);  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [EXPLAIN PLAN](http://psoug.org/definition/EXPLAIN_PLAN.htm) FOR [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) vcol\_part;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) [TABLE](http://psoug.org/definition/TABLE.htm)(dbms\_xplan.display);  [EXPLAIN PLAN](http://psoug.org/definition/EXPLAIN_PLAN.htm) FOR [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) vcol\_part [WHERE](http://psoug.org/definition/WHERE.htm) staylen < 11;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) [TABLE](http://psoug.org/definition/TABLE.htm)(dbms\_xplan.display);  [EXPLAIN PLAN](http://psoug.org/definition/EXPLAIN_PLAN.htm) FOR [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) vcol\_part [WHERE](http://psoug.org/definition/WHERE.htm) staylen [BETWEEN](http://psoug.org/definition/BETWEEN.htm) 11 [AND](http://psoug.org/definition/AND.htm) 20;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) [TABLE](http://psoug.org/definition/TABLE.htm)(dbms\_xplan.display);  [EXPLAIN PLAN](http://psoug.org/definition/EXPLAIN_PLAN.htm) FOR [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) vcol\_part [WHERE](http://psoug.org/definition/WHERE.htm) staylen >= 11;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) [TABLE](http://psoug.org/definition/TABLE.htm)(dbms\_xplan.display); |
|  | | |
| **Composite Partitions** | | |
| Composite Partitioned Table - By Range And Hash | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_rng\_hash ( cust\_id     [NUMBER](http://psoug.org/definition/NUMBER.htm)(10),  cust\_name   [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(25),  amount\_sold [NUMBER](http://psoug.org/definition/NUMBER.htm)(10,2),  time\_id     [DATE](http://psoug.org/definition/DATE.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE(time\_id)  SUBPARTITION BY HASH(cust\_id) SUBPARTITION TEMPLATE( SUBPARTITION sp1 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, SUBPARTITION sp2 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, SUBPARTITION sp3 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3, SUBPARTITION sp4 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part4) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) sales\_pre05 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2005','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) sales\_2005  [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2006','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) sales\_2006 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2007','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) sales\_2007 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2008','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) sales\_2008  [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2009','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) sales\_future [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN(MAXVALUE));  set linesize 121 col table\_name format a20  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partitioned, secondary [FROM](http://psoug.org/definition/FROM.htm) user\_tables;  desc user\_tab\_partitions  col partition\_name format a15 col spc format 99999 col high\_value format a50  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, composite, subpartition\_count SPC, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  desc user\_tab\_subpartitions  col subpartition\_name format a20  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, subpartition\_name, subpartition\_position [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions;  desc user\_subpartition\_templates  col high\_bound format a20  [SELECT](http://psoug.org/definition/SELECT.htm) subpartition\_name, tablespace\_name, high\_bound [FROM](http://psoug.org/definition/FROM.htm) user\_subpartition\_templates;  conn sh/sh  [GRANT](http://psoug.org/definition/GRANT.htm) select ON sales TO uwclass; [GRANT](http://psoug.org/definition/GRANT.htm) select on customers TO uwclass;  conn uwclass/uwclass  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) composite\_rng\_hash [SELECT](http://psoug.org/definition/SELECT.htm) c.cust\_id, c.cust\_first\_name || ' ' || c.cust\_last\_name, s.amount\_sold, s.time\_id [FROM](http://psoug.org/definition/FROM.htm) sh.sales s, sh.customers c [WHERE](http://psoug.org/definition/WHERE.htm) s.cust\_id = c.cust\_id [AND](http://psoug.org/definition/AND.htm) rownum < 250001;  exec dbms\_stats.gather\_table\_stats([USER](http://psoug.org/definition/USER.htm), 'COMPOSITE\_RNG\_HASH', 'SALES\_PRE05'); exec dbms\_stats.gather\_table\_stats([USER](http://psoug.org/definition/USER.htm), 'COMPOSITE\_RNG\_HASH', 'SALES\_2005'); exec dbms\_stats.gather\_table\_stats([USER](http://psoug.org/definition/USER.htm), 'COMPOSITE\_RNG\_HASH', 'SALES\_2006'); exec dbms\_stats.gather\_table\_stats([USER](http://psoug.org/definition/USER.htm), 'COMPOSITE\_RNG\_HASH', 'SALES\_2007'); exec dbms\_stats.gather\_table\_stats([USER](http://psoug.org/definition/USER.htm), 'COMPOSITE\_RNG\_HASH', 'SALES\_2008'); exec dbms\_stats.gather\_table\_stats([USER](http://psoug.org/definition/USER.htm), 'COMPOSITE\_RNG\_HASH', 'SALES\_FUTURE');  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, num\_rows [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, subpartition\_name, num\_rows [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions;  exec dbms\_stats.gather\_table\_stats([USER](http://psoug.org/definition/USER.htm), 'COMPOSITE\_RNG\_HASH', GRANULARITY=>'ALL');  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, subpartition\_name, num\_rows [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions;  set long 1000000 select dbms\_metadata.get\_ddl('TABLE', 'COMPOSITE\_RNG\_HASH'); | |
| Composite Partitioned Table - By Range And List | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_rng\_list ( cust\_id     [NUMBER](http://psoug.org/definition/NUMBER.htm)(10),  cust\_name   [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(25),  cust\_state  [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(2),  time\_id     [DATE](http://psoug.org/definition/DATE.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE(time\_id)  SUBPARTITION BY LIST (cust\_state) SUBPARTITION TEMPLATE( SUBPARTITION west [VALUES](http://psoug.org/definition/VALUES.htm) ('OR', 'WA') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, SUBPARTITION east [VALUES](http://psoug.org/definition/VALUES.htm) ('NY', 'CT') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, SUBPARTITION cent [VALUES](http://psoug.org/definition/VALUES.htm) ('OK', 'TX') [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3) (  [PARTITION](http://psoug.org/definition/PARTITION.htm) per1 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2000','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) per2 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2005','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) per3 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2010','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) future [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN(MAXVALUE));  desc composite\_rng\_list  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, composite, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, subpartition\_name, num\_rows [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions; | |
| Composite Partitioned Table - By Range And Range | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_rng\_rng ( cust\_id     [NUMBER](http://psoug.org/definition/NUMBER.htm)(10),  cust\_name   [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(25),  cust\_state  [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(2),  time\_id     [DATE](http://psoug.org/definition/DATE.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE(time\_id)  SUBPARTITION BY RANGE (cust\_id) SUBPARTITION TEMPLATE( SUBPARTITION original [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (1001) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part1, SUBPARTITION acquired [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (8001) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part2, SUBPARTITION recent [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (MAXVALUE) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part3) (  [PARTITION](http://psoug.org/definition/PARTITION.htm) per1 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2000','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) per2 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2005','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) per3 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2010','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) future [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (MAXVALUE));  desc composite\_rng\_rng  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, composite, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, subpartition\_name, num\_rows [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions; | |
| Composite Partitioned Table - By List And Hash | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_list\_hash ( cust\_id     [NUMBER](http://psoug.org/definition/NUMBER.htm)(10),  cust\_name   [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(25),  cust\_state  [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(2),  time\_id     [DATE](http://psoug.org/definition/DATE.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY LIST(cust\_state) SUBPARTITION BY HASH (cust\_id) SUBPARTITION TEMPLATE( SUBPARTITION sp1 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, SUBPARTITION sp2 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, SUBPARTITION sp3 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3, SUBPARTITION sp4 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part4) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) west [VALUES](http://psoug.org/definition/VALUES.htm) ('OR', 'WA'), [PARTITION](http://psoug.org/definition/PARTITION.htm) east [VALUES](http://psoug.org/definition/VALUES.htm) ('NY', 'CT'), [PARTITION](http://psoug.org/definition/PARTITION.htm) cent [VALUES](http://psoug.org/definition/VALUES.htm) ('IL', 'MN')); | |
| Composite Partitioned Table - By List And List | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_list\_list ( cust\_id     [NUMBER](http://psoug.org/definition/NUMBER.htm)(10),  cust\_name   [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(25),  cust\_state  [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(2),  time\_id     [DATE](http://psoug.org/definition/DATE.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY LIST(cust\_state) SUBPARTITION BY LIST (cust\_id) SUBPARTITION TEMPLATE( SUBPARTITION beg [VALUES](http://psoug.org/definition/VALUES.htm) (1,3,5) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, SUBPARTITION mid [VALUES](http://psoug.org/definition/VALUES.htm) (2,4,6) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, SUBPARTITION end [VALUES](http://psoug.org/definition/VALUES.htm) (7,8,9,0) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) west [VALUES](http://psoug.org/definition/VALUES.htm) ('OR', 'WA'), [PARTITION](http://psoug.org/definition/PARTITION.htm) east [VALUES](http://psoug.org/definition/VALUES.htm) ('NY', 'CT'), [PARTITION](http://psoug.org/definition/PARTITION.htm) cent [VALUES](http://psoug.org/definition/VALUES.htm) ('IL', 'MN')); | |
| Composite Partitioned Table - By List And Range | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_list\_rng ( cust\_id     [NUMBER](http://psoug.org/definition/NUMBER.htm)(10),  cust\_name   [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(25),  cust\_state  [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(2),  time\_id     [DATE](http://psoug.org/definition/DATE.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY LIST(cust\_state) SUBPARTITION BY RANGE (cust\_id) SUBPARTITION TEMPLATE( SUBPARTITION original [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (1001) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part1, SUBPARTITION acquired [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (8001) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part2, SUBPARTITION recent [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (MAXVALUE) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part3) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) west [VALUES](http://psoug.org/definition/VALUES.htm) ('OR', 'WA'), [PARTITION](http://psoug.org/definition/PARTITION.htm) east [VALUES](http://psoug.org/definition/VALUES.htm) ('NY', 'CT'), [PARTITION](http://psoug.org/definition/PARTITION.htm) cent [VALUES](http://psoug.org/definition/VALUES.htm) ('IL', 'MN')); | |
|  | | |
| **Compressed Partitions** | | |
| Partition Level Compression | Need syntax diagram | |
| [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) sales ( saleskey    [NUMBER](http://psoug.org/definition/NUMBER.htm), quarter     [NUMBER](http://psoug.org/definition/NUMBER.htm), product     [NUMBER](http://psoug.org/definition/NUMBER.htm), salesperson [NUMBER](http://psoug.org/definition/NUMBER.htm), amount      [NUMBER](http://psoug.org/definition/NUMBER.htm)(12,2), region      [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(10)) COMPRESS [PARTITION](http://psoug.org/definition/PARTITION.htm) BY LIST (region) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) northwest [VALUES](http://psoug.org/definition/VALUES.htm) ('NORTHWEST'), [PARTITION](http://psoug.org/definition/PARTITION.htm) southwest [VALUES](http://psoug.org/definition/VALUES.htm) ('SOUTHWEST'), [PARTITION](http://psoug.org/definition/PARTITION.htm) northeast [VALUES](http://psoug.org/definition/VALUES.htm) ('NORTHEAST') NOCOMPRESS, [PARTITION](http://psoug.org/definition/PARTITION.htm) southeast [VALUES](http://psoug.org/definition/VALUES.htm) ('SOUTHEAST'), [PARTITION](http://psoug.org/definition/PARTITION.htm) western   [VALUES](http://psoug.org/definition/VALUES.htm) ('WESTERN'));  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, tablespace\_name, partitioned, compression [FROM](http://psoug.org/definition/FROM.htm) user\_tables;  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value, compression [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions; | |
|  | | |
| **Alter Table For Partitions** | | |
| Moving Partitions  Not composite | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> MOVE [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) <tablespace\_name>; | |
| [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, tablespace\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) hash\_part MOVE [PARTITION](http://psoug.org/definition/PARTITION.htm) sys\_p26 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) list\_part MOVE [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_southcent [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata NOLOGGING;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part MOVE [PARTITION](http://psoug.org/definition/PARTITION.htm) yr0 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_rng\_hash MOVE [PARTITION](http://psoug.org/definition/PARTITION.htm) sales\_pre98 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata;  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, tablespace\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions; | |
| Moving Subpartitions | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> MOVE SUBPARTITION <subpartition\_name> [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) <tablespace\_name>; | |
| [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, subpartition\_name, tablespace\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions [WHERE](http://psoug.org/definition/WHERE.htm) TABLE\_NAME = 'COMPOSITE\_RNG\_HASH';  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_rng\_hash MOVE SUBPARTITION sales\_pre98\_sp1 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata PARALLEL (DEGREE 2);  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, subpartition\_name, tablespace\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions [WHERE](http://psoug.org/definition/WHERE.htm) TABLE\_NAME = 'COMPOSITE\_RNG\_HASH'; | |
| Merging Subpartitions  List Only | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> MERGE SUBPARTITIONS <subpartition\_name> [INTO](http://psoug.org/definition/INTO.htm) SUBPARTITION <subpartition\_name [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) <tablespace\_name>; | |
| [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_rng\_hash MERGE SUBPARTITIONS sales\_pre98\_sp1, sales\_pre98\_sp2 [INTO](http://psoug.org/definition/INTO.htm) SUBPARTITION sales\_pre98\_sp12 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1;  [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_list ( cust\_id     [NUMBER](http://psoug.org/definition/NUMBER.htm)(10),  channel\_id  [NUMBER](http://psoug.org/definition/NUMBER.htm)(3), amount\_sold [NUMBER](http://psoug.org/definition/NUMBER.htm)(10,2),  time\_id     [DATE](http://psoug.org/definition/DATE.htm)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE(time\_id)  SUBPARTITION BY LIST(channel\_id) SUBPARTITION TEMPLATE( SUBPARTITION sp1 [VALUES](http://psoug.org/definition/VALUES.htm) (2, 3) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, SUBPARTITION sp2 [VALUES](http://psoug.org/definition/VALUES.htm) (4, 5) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, SUBPARTITION sp3 [VALUES](http://psoug.org/definition/VALUES.htm) (6, 7) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3, SUBPARTITION sp4 [VALUES](http://psoug.org/definition/VALUES.htm) (8, 9) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part4) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) sp98  [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/1998','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) s98  [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/1999','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) s99  [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2000','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) s2K  [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2001','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) s01  [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2002','DD/MM/YYYY')), [PARTITION](http://psoug.org/definition/PARTITION.htm) sf [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN(MAXVALUE));  col high\_value format a20  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, subpartition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_LIST';  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_list MERGE SUBPARTITIONS sp98\_sp1, sp98\_sp2 [INTO](http://psoug.org/definition/INTO.htm) SUBPARTITION sp12 PARALLEL (DEGREE 2) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1;  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, subpartition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_LIST'; | |
| Modify A Subpartition Template | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> SET SUBPARTITION TEMPLATE ( SUBPARTITION <subpartition\_name>, [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)<tablespace\_name>, SUBPARTITION <subpartition\_name>, [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)<tablespace\_name>); | |
| [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, subpartition\_name, tablespace\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_LIST';[ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_list SET SUBPARTITION TEMPLATE ( SUBPARTITION sp1 [VALUES](http://psoug.org/definition/VALUES.htm) (2, 3) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, SUBPARTITION sp2 [VALUES](http://psoug.org/definition/VALUES.htm) (4, 5) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, SUBPARTITION sp3 [VALUES](http://psoug.org/definition/VALUES.htm) (6, 7) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3, SUBPARTITION sp4 [VALUES](http://psoug.org/definition/VALUES.htm) (8, 9) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part4, SUBPARTITION sp5 [VALUES](http://psoug.org/definition/VALUES.htm) (0, 1) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata);  col partition\_name format a15 col high\_value format a30   [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, subpartition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_LIST';  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_list [DROP](http://psoug.org/definition/DROP.htm) [PARTITION](http://psoug.org/definition/PARTITION.htm) sf;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_list ADD [PARTITION](http://psoug.org/definition/PARTITION.htm) s02  [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01/01/2003','DD/MM/YYYY'));   [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_list  ADD [PARTITION](http://psoug.org/definition/PARTITION.htm) sf  [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN(MAXVALUE);  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, subpartition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_LIST';  set long 1000000 select dbms\_metadata.get\_ddl('TABLE', 'RANGE\_LIST'); | |
| Change The Tablespace Name For A Future Partition | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> MODIFY DEFAULT ATTRIBUTES FOR [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) <tablespace\_name>; | |
| select partition\_name, tablespace\_name, high\_value from user\_tab\_partitions where table\_name = 'RANGE\_LIST';  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_list MODIFY DEFAULT ATTRIBUTES FOR [PARTITION](http://psoug.org/definition/PARTITION.htm) s98 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)part1;  select partition\_name, tablespace\_name, high\_value from user\_tab\_partitions where table\_name = 'RANGE\_LIST';  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, subpartition\_name, tablespace\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_subpartitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_LIST'; | |
| Modify A List Partitioned List | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> MODIFY [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> ADD [VALUES](http://psoug.org/definition/VALUES.htm) (<values\_list>); | |
| [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'LIST\_PART';  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) list\_part MODIFY [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_northcent ADD [VALUES](http://psoug.org/definition/VALUES.htm) ('MI', 'OH');  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'LIST\_PART'; | |
| Drop Values From A List Partitioned List | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> MODIFY [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> [DROP](http://psoug.org/definition/DROP.htm) [VALUES](http://psoug.org/definition/VALUES.htm) (<values\_list>); | |
| [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) list\_part MODIFY [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_southwest [DROP](http://psoug.org/definition/DROP.htm) [VALUES](http://psoug.org/definition/VALUES.htm) ('NM');  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name, tablespace\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'LIST\_PART'; | |
| Convert A Partition Into A Stand-alone Table | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> EXCHANGE [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> WITH [TABLE](http://psoug.org/definition/TABLE.htm) <new\_table\_name> <including | excluding> INDEXES <with | without> VALIDATION EXCEPTIONS [INTO](http://psoug.org/definition/INTO.htm) <schema.table\_name>; | |
| [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, num\_rows [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'LIST\_PART';  [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) q1\_northwest AS [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) list\_part [WHERE](http://psoug.org/definition/WHERE.htm) 1=2;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) list\_part;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) list\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (q1\_northwest);  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) list\_part  EXCHANGE [PARTITION](http://psoug.org/definition/PARTITION.htm) q1\_northwest WITH [TABLE](http://psoug.org/definition/TABLE.htm) q1\_northwest INCLUDING INDEXES WITHOUT VALIDATION EXCEPTIONS [INTO](http://psoug.org/definition/INTO.htm) uwclass.problems;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) q1\_northwest;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) list\_part; | |
| Convert A Stand-alone Table Into A Partition | [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part ( rid  [NUMBER](http://psoug.org/definition/NUMBER.htm), col1 [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(10), col2 [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(100)) [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE(rid) ( partition p1 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (1000), partition p3 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (3000), partition pm [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (MAXVALUE));  [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) new\_part ( rid  [NUMBER](http://psoug.org/definition/NUMBER.htm), col1 [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(10), col2 [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(100));  [INSERT](http://psoug.org/definition/INSERT.htm) /\*+ APPEND ORDERED FULL(s1) USE\_NL(s2) \*/ [INTO](http://psoug.org/definition/INTO.htm) new\_part [SELECT](http://psoug.org/definition/SELECT.htm) 3000 + [TRUNC](http://psoug.org/definition/TRUNC.htm)((rownum-1)/500,6), [TO\_CHAR](http://psoug.org/definition/TO_CHAR.htm)(rownum), rpad('x',100) [FROM](http://psoug.org/definition/FROM.htm) sys.source$ s1, sys.source$ s2 [WHERE](http://psoug.org/definition/WHERE.htm) rownum <= 100000;  [COMMIT](http://psoug.org/definition/COMMIT.htm);  [SELECT](http://psoug.org/definition/SELECT.htm) [COUNT](http://psoug.org/definition/COUNT.htm)(\*) [FROM](http://psoug.org/definition/FROM.htm) range\_part; [SELECT](http://psoug.org/definition/SELECT.htm) [COUNT](http://psoug.org/definition/COUNT.htm)(\*) [FROM](http://psoug.org/definition/FROM.htm) new\_part;  col high\_value format a20  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  set timing on  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part EXCHANGE [PARTITION](http://psoug.org/definition/PARTITION.htm) pm WITH [TABLE](http://psoug.org/definition/TABLE.htm) new\_part;  set timing off [DROP](http://psoug.org/definition/DROP.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part PURGE; [DROP](http://psoug.org/definition/DROP.htm) [TABLE](http://psoug.org/definition/TABLE.htm) new\_part PURGE;  -- recreate and populate tables  set timing on  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part EXCHANGE [PARTITION](http://psoug.org/definition/PARTITION.htm) pm WITH [TABLE](http://psoug.org/definition/TABLE.htm) new\_part WITHOUT VALIDATION;  -- again drop the tables, recreate, and load them  -- add some realistic constraints [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part  ADD [CONSTRAINT](http://psoug.org/definition/CONSTRAINT.htm) pk\_range\_part PRIMARY KEY(rid)  USING [INDEX](http://psoug.org/definition/INDEX.htm) LOCAL;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) new\_part ADD [CONSTRAINT](http://psoug.org/definition/CONSTRAINT.htm) pk\_new\_part PRIMARY KEY(rid)  USING [INDEX](http://psoug.org/definition/INDEX.htm);  set timing on  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part EXCHANGE [PARTITION](http://psoug.org/definition/PARTITION.htm) pm WITH [TABLE](http://psoug.org/definition/TABLE.htm) new\_part INCLUDING INDEXES WITHOUT VALIDATION;  -- repeat again but this time do the following before the exchange [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part MODIFY PRIMARY KEY NOVALIDATE; [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) new\_part MODIFY PRIMARY KEY NOVALIDATE;  set timing on  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part EXCHANGE [PARTITION](http://psoug.org/definition/PARTITION.htm) pm WITH [TABLE](http://psoug.org/definition/TABLE.htm) new\_part INCLUDING INDEXES WITHOUT VALIDATION; | |
| Renaming A Partition | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name>  RENAME [PARTITION](http://psoug.org/definition/PARTITION.htm) <existing\_partition\_name>  TO <new\_partition\_name>; | |
| [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_list RENAME [PARTITION](http://psoug.org/definition/PARTITION.htm) sf TO sales\_future;  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions; | |
| Split Partition | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> SPLIT [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> AT <range\_definition> [INTO](http://psoug.org/definition/INTO.htm) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) <first\_partition>, [PARTITION](http://psoug.org/definition/PARTITION.htm)<second\_partition>) [UPDATE](http://psoug.org/definition/UPDATE.htm) GLOBAL INDEXES; | |
| [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_PART';  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-1998'), 'A'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-1999'), 'A'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-2000'), 'A'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-2001'), 'A'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('15-MAR-2001'), 'A'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('16-SEP-2001'), 'A'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('20-DEC-2001'), 'A'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-2002'), 'A'); [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) range\_part [VALUES](http://psoug.org/definition/VALUES.htm) (1, 1, 1, [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-2003'), 'A'); [COMMIT](http://psoug.org/definition/COMMIT.htm);  col ph\_comments format a10  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr2a);  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part  SPLIT [PARTITION](http://psoug.org/definition/PARTITION.htm) yr2 AT ([TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('30-JUN-2001','DD-MON-YYYY')) [INTO](http://psoug.org/definition/INTO.htm) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) yr2a, [PARTITION](http://psoug.org/definition/PARTITION.htm) yr2b) [UPDATE](http://psoug.org/definition/UPDATE.htm) GLOBAL INDEXES;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr2a); [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr2b);  [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name, high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_PART'; | |
| Truncate A Partition | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> [TRUNCATE](http://psoug.org/definition/TRUNCATE.htm) [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> [DROP](http://psoug.org/definition/DROP.htm) STORAGE; | |
| [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr2b);  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part  [TRUNCATE](http://psoug.org/definition/TRUNCATE.htm) [PARTITION](http://psoug.org/definition/PARTITION.htm) yr2b [DROP](http://psoug.org/definition/DROP.htm) STORAGE;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr2b); | |
| Split An LOB Partition | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> SPLIT [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> AT <split location> [INTO](http://psoug.org/definition/INTO.htm) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) <new\_partition\_name> [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)<tablespace\_name>" LOB <column\_name> STORE [AS](http://psoug.org/definition/AS.htm) ([TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) <tablespace\_name>), [PARTITION](http://psoug.org/definition/PARTITION.htm) <new\_partition\_name> LOB (<column\_name>) STORE [AS](http://psoug.org/definition/AS.htm) ([TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) <tablespace\_name>); | |
| [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) print\_media\_part SPLIT [PARTITION](http://psoug.org/definition/PARTITION.htm) p2 AT (150) [INTO](http://psoug.org/definition/INTO.htm) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) p2a [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) omf\_ts1 LOB ad\_photo, ad\_composite) STORE [AS](http://psoug.org/definition/AS.htm) ([TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) omf\_ts2), [PARTITION](http://psoug.org/definition/PARTITION.htm) p2b  LOB (ad\_photo, ad\_composite) STORE [AS](http://psoug.org/definition/AS.htm) ([TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) omf\_ts2)); | |
| Add Partition And Specify BLOB/LOB Storage | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> ADD [PARTITION](http://psoug.org/definition/PARTITION.htm) <new\_partition\_name> [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (MAXVALUE) LOB (<column\_name>) STORE [AS](http://psoug.org/definition/AS.htm) ([TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) <tablespace\_name); | |
| [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) print\_media\_part ADD [PARTITION](http://psoug.org/definition/PARTITION.htm) p3 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN (MAXVALUE) LOB (ad\_photo, ad\_composite) STORE [AS](http://psoug.org/definition/AS.htm) ([TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) omf\_ts2) LOB (ad\_sourcetext, ad\_finaltext) STORE [AS](http://psoug.org/definition/AS.htm) ([TABLESPACE](http://psoug.org/definition/TABLESPACE.htm)omf\_ts1); | |
|  | | |
| **Index Partitions** | | |
| Global Index Creation | [CREATE](http://psoug.org/definition/CREATE.htm) [INDEX](http://psoug.org/definition/INDEX.htm) <index\_name> ON <table\_name> <column\_name\_list>; | |
| [SELECT](http://psoug.org/definition/SELECT.htm) i.index\_name, i.composite, i.partition\_name, i.high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_ind\_partitions i, user\_tab\_partitions t [WHERE](http://psoug.org/definition/WHERE.htm) i.partition\_name = t.partition\_name [AND](http://psoug.org/definition/AND.htm) t.table\_name = 'RANGE\_PART';  [SELECT](http://psoug.org/definition/SELECT.htm) partition\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_PART';  [CREATE](http://psoug.org/definition/CREATE.htm) [INDEX](http://psoug.org/definition/INDEX.htm) gi\_range\_part\_person\_id ON range\_part (person\_id);  [SELECT](http://psoug.org/definition/SELECT.htm) index\_name, partitioned [FROM](http://psoug.org/definition/FROM.htm) user\_indexes [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_PART';  [DROP](http://psoug.org/definition/DROP.htm) [INDEX](http://psoug.org/definition/INDEX.htm) gi\_range\_part\_person\_id; | |
| Local Index Creation and Partition Pruning Demo | [CREATE](http://psoug.org/definition/CREATE.htm) [INDEX](http://psoug.org/definition/INDEX.htm) <index\_name> ON <table\_name> <column\_name\_list> LOCAL; | |
| [CREATE](http://psoug.org/definition/CREATE.htm) [INDEX](http://psoug.org/definition/INDEX.htm) li\_range\_part\_person\_id ON range\_part (person\_id) LOCAL;  [SELECT](http://psoug.org/definition/SELECT.htm) index\_name, partitioned [FROM](http://psoug.org/definition/FROM.htm) user\_indexes [WHERE](http://psoug.org/definition/WHERE.htm) table\_name = 'RANGE\_PART';  [SELECT](http://psoug.org/definition/SELECT.htm) ip.index\_name, ip.composite, ip.partition\_name, ip.high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_ind\_partitions ip, user\_indexes ui [WHERE](http://psoug.org/definition/WHERE.htm) ip.index\_name = ui.index\_name [AND](http://psoug.org/definition/AND.htm) ui.table\_name = 'RANGE\_PART';  [DROP](http://psoug.org/definition/DROP.htm) [INDEX](http://psoug.org/definition/INDEX.htm) li\_range\_part\_person\_id;  [CREATE](http://psoug.org/definition/CREATE.htm) [INDEX](http://psoug.org/definition/INDEX.htm) li\_range\_part\_person\_id ON range\_part (person\_id) LOCAL ( [PARTITION](http://psoug.org/definition/PARTITION.htm) yr0  [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, [PARTITION](http://psoug.org/definition/PARTITION.htm) yr1  [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2, [PARTITION](http://psoug.org/definition/PARTITION.htm) yr2a  [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part3, [PARTITION](http://psoug.org/definition/PARTITION.htm) yr2b [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part4, [PARTITION](http://psoug.org/definition/PARTITION.htm) yr9  [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata);  col tablespace\_name format a15  [SELECT](http://psoug.org/definition/SELECT.htm) ip.index\_name, ip.partition\_name, ip.tablespace\_name, ip.high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_ind\_partitions ip, user\_indexes ui [WHERE](http://psoug.org/definition/WHERE.htm) ip.index\_name = ui.index\_name [AND](http://psoug.org/definition/AND.htm) ui.table\_name = 'RANGE\_PART';  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [PARTITION](http://psoug.org/definition/PARTITION.htm) (yr2a);  [EXPLAIN PLAN](http://psoug.org/definition/EXPLAIN_PLAN.htm) FOR [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [WHERE](http://psoug.org/definition/WHERE.htm) record\_date [BETWEEN](http://psoug.org/definition/BETWEEN.htm) [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-1998') [AND](http://psoug.org/definition/AND.htm)[TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('31-JAN-1998');  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) [TABLE](http://psoug.org/definition/TABLE.htm)(dbms\_xplan.display);  [EXPLAIN PLAN](http://psoug.org/definition/EXPLAIN_PLAN.htm) FOR [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [WHERE](http://psoug.org/definition/WHERE.htm) record\_date [BETWEEN](http://psoug.org/definition/BETWEEN.htm) [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-1998') [AND](http://psoug.org/definition/AND.htm)[TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('31-DEC-2000');  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) [TABLE](http://psoug.org/definition/TABLE.htm)(dbms\_xplan.display);  [EXPLAIN PLAN](http://psoug.org/definition/EXPLAIN_PLAN.htm) FOR [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part [WHERE](http://psoug.org/definition/WHERE.htm) record\_date [BETWEEN](http://psoug.org/definition/BETWEEN.htm) [TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('01-JAN-1999') [AND](http://psoug.org/definition/AND.htm)[TO\_DATE](http://psoug.org/definition/TO_DATE.htm)('31-DEC-2002');  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) [TABLE](http://psoug.org/definition/TABLE.htm)(dbms\_xplan.display); | |
| Global Partition Index Creation | [CREATE](http://psoug.org/definition/CREATE.htm) [INDEX](http://psoug.org/definition/INDEX.htm) <index\_name> ON <table\_name> <column\_name\_list> GLOBAL [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE (partition\_column\_name\_list) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> [VALUES](http://psoug.org/definition/VALUES.htm) <condition>); | |
| [DROP](http://psoug.org/definition/DROP.htm) [INDEX](http://psoug.org/definition/INDEX.htm) li\_range\_part\_person\_id;  [UPDATE](http://psoug.org/definition/UPDATE.htm) range\_part SET organization\_id = ROWNUM;  col ph\_comments format a15  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) range\_part;  [CREATE](http://psoug.org/definition/CREATE.htm) [INDEX](http://psoug.org/definition/INDEX.htm) gi\_range\_part\_person\_id ON range\_part (organization\_id) GLOBAL [PARTITION](http://psoug.org/definition/PARTITION.htm) BY RANGE(organization\_id) ( [PARTITION](http://psoug.org/definition/PARTITION.htm) p1 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN(4) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part1, [PARTITION](http://psoug.org/definition/PARTITION.htm) p2 [VALUES](http://psoug.org/definition/VALUES.htm) LESS THAN(MAXVALUE) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) part2);  col high\_value format a20  [SELECT](http://psoug.org/definition/SELECT.htm) ip.index\_name, ip.partition\_name, ip.tablespace\_name, ip.high\_value [FROM](http://psoug.org/definition/FROM.htm) user\_ind\_partitions ip, user\_indexes ui [WHERE](http://psoug.org/definition/WHERE.htm) ip.index\_name = ui.index\_name [AND](http://psoug.org/definition/AND.htm) ui.table\_name = 'RANGE\_PART'; | |
| Query for Unusable Indexes | [SELECT](http://psoug.org/definition/SELECT.htm) index\_name, partition\_name, status [FROM](http://psoug.org/definition/FROM.htm) user\_ind\_partitions; | |
|  | | |
| **Alter Table and Index For Partitions** | | |
| Rebuild Local All Local Indexes On A Table | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> MODIFY [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> [REBUILD](http://psoug.org/definition/REBUILD.htm) UNUSABLE LOCAL INDEXES; | |
| [CREATE](http://psoug.org/definition/CREATE.htm) [INDEX](http://psoug.org/definition/INDEX.htm) li\_range\_part\_person\_id ON range\_part (person\_id) LOCAL;  [SELECT](http://psoug.org/definition/SELECT.htm) t.table\_name, i.index\_name, i.partition\_name, i.status [FROM](http://psoug.org/definition/FROM.htm) user\_ind\_partitions i, user\_tab\_partitions t [WHERE](http://psoug.org/definition/WHERE.htm) i.partition\_name = t.partition\_name;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_part  MODIFY [PARTITION](http://psoug.org/definition/PARTITION.htm) yr0 [REBUILD](http://psoug.org/definition/REBUILD.htm) UNUSABLE LOCAL INDEXES; | |
| Rebuild any unusable local index partitions associated with a hash partition at the specific composite partitioned table subpartition level | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) <table\_name> MODIFY SUBPARTITION <subpartition\_name> [REBUILD](http://psoug.org/definition/REBUILD.htm) UNUSABLE LOCAL INDEXES; | |
| [SELECT](http://psoug.org/definition/SELECT.htm) i.table\_name, s.index\_name, s.partition\_name, s.status [FROM](http://psoug.org/definition/FROM.htm) user\_ind\_subpartitions s, user\_indexes i [WHERE](http://psoug.org/definition/WHERE.htm) s.index\_name = i.index\_name;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) composite\_rng\_hash  MODIFY SUBPARTITION sales\_1999\_sp4 [REBUILD](http://psoug.org/definition/REBUILD.htm) UNUSABLE LOCAL INDEXES; | |
| Rebuild (and move) a local partition index | [ALTER](http://psoug.org/definition/ALTER.htm) [INDEX](http://psoug.org/definition/INDEX.htm) <index\_name> [REBUILD](http://psoug.org/definition/REBUILD.htm) [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) <new\_tablespace\_name>; | |
| col partition\_name format a10 col tablespace\_name format a20  [SELECT](http://psoug.org/definition/SELECT.htm) i.table\_name, s.index\_name, s.tablespace\_name, s.partition\_name, s.status [FROM](http://psoug.org/definition/FROM.htm) user\_ind\_partitions s, user\_indexes i [WHERE](http://psoug.org/definition/WHERE.htm) s.index\_name = i.index\_name;  [ALTER](http://psoug.org/definition/ALTER.htm) [INDEX](http://psoug.org/definition/INDEX.htm) li\_range\_part\_person\_id  [REBUILD](http://psoug.org/definition/REBUILD.htm) [PARTITION](http://psoug.org/definition/PARTITION.htm) yr2 [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) uwdata;  [SELECT](http://psoug.org/definition/SELECT.htm) i.table\_name, s.index\_name, s.tablespace\_name, s.partition\_name, s.status [FROM](http://psoug.org/definition/FROM.htm) user\_ind\_partitions s, user\_indexes i [WHERE](http://psoug.org/definition/WHERE.htm) s.index\_name = i.index\_name; | |
|  | | |
| **Drop Partition** | | |
| Drop Partition | [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) [DROP](http://psoug.org/definition/DROP.htm) [PARTITION](http://psoug.org/definition/PARTITION.htm) <partition\_name> [ [UPDATE](http://psoug.org/definition/UPDATE.htm) GLOBAL INDEXES]; | |
| [SELECT](http://psoug.org/definition/SELECT.htm) table\_name, partition\_name [FROM](http://psoug.org/definition/FROM.htm) user\_tab\_partitions;  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLE](http://psoug.org/definition/TABLE.htm) range\_list [DROP](http://psoug.org/definition/DROP.htm) [PARTITION](http://psoug.org/definition/PARTITION.htm) s2k [UPDATE](http://psoug.org/definition/UPDATE.htm) GLOBAL INDEXES; | |
|  | | |
| **Demos** | | |
| Partition Elimination | conn scott/tiger  -- Create a list partitioned table  [CREATE](http://psoug.org/definition/CREATE.htm) [TABLE](http://psoug.org/definition/TABLE.htm) partdemo ( empno    [NUMBER](http://psoug.org/definition/NUMBER.htm)(4) [NOT](http://psoug.org/definition/NOT.htm) NULL, ename    [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(10), job      [VARCHAR2](http://psoug.org/definition/VARCHAR2.htm)(9), mgr      [NUMBER](http://psoug.org/definition/NUMBER.htm)(4), hiredate [DATE](http://psoug.org/definition/DATE.htm), sal      [NUMBER](http://psoug.org/definition/NUMBER.htm)(7, 2), comm     [NUMBER](http://psoug.org/definition/NUMBER.htm)(7, 2), deptno   [NUMBER](http://psoug.org/definition/NUMBER.htm)(2)) partition by list(deptno)( partition p1 values (10,30) tablespace uwdata, partition p2 values (20,40) tablespace example);  [INSERT](http://psoug.org/definition/INSERT.htm) [INTO](http://psoug.org/definition/INTO.htm) partdemo [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) scott.emp;  set linesize 121  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) partdemo;  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) partdemo [PARTITION](http://psoug.org/definition/PARTITION.htm) (p1);  [SELECT](http://psoug.org/definition/SELECT.htm) \* [FROM](http://psoug.org/definition/FROM.htm) partdemo [PARTITION](http://psoug.org/definition/PARTITION.htm) (p2);  -- Take the example tablespace OFFLINE to examine partition elimination conn / as sysdba  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) example OFFLINE;  conn scott/tiger  [SELECT](http://psoug.org/definition/SELECT.htm) [COUNT](http://psoug.org/definition/COUNT.htm)(\*) [FROM](http://psoug.org/definition/FROM.htm) partdemo; [SELECT](http://psoug.org/definition/SELECT.htm) [COUNT](http://psoug.org/definition/COUNT.htm)(\*) [FROM](http://psoug.org/definition/FROM.htm) partdemo [WHERE](http://psoug.org/definition/WHERE.htm) deptno = 10; [SELECT](http://psoug.org/definition/SELECT.htm) [COUNT](http://psoug.org/definition/COUNT.htm)(\*) [FROM](http://psoug.org/definition/FROM.htm) partdemo [WHERE](http://psoug.org/definition/WHERE.htm) deptno [BETWEEN](http://psoug.org/definition/BETWEEN.htm) 1 [AND](http://psoug.org/definition/AND.htm) 19; [SELECT](http://psoug.org/definition/SELECT.htm) [COUNT](http://psoug.org/definition/COUNT.htm)(\*) [FROM](http://psoug.org/definition/FROM.htm) partdemo [WHERE](http://psoug.org/definition/WHERE.htm) deptno [BETWEEN](http://psoug.org/definition/BETWEEN.htm) 1 [AND](http://psoug.org/definition/AND.htm) 20; [SELECT](http://psoug.org/definition/SELECT.htm) [COUNT](http://psoug.org/definition/COUNT.htm)(\*) [FROM](http://psoug.org/definition/FROM.htm) partdemo [WHERE](http://psoug.org/definition/WHERE.htm) deptno IN(10,30);  conn / as sysdba  [ALTER](http://psoug.org/definition/ALTER.htm) [TABLESPACE](http://psoug.org/definition/TABLESPACE.htm) example ONLINE; | |
|  | | |
| **Undocumented Partitioning** | | |
| Found by Jonathan Lewis and noted [here](http://www.jlcomp.demon.co.uk/book_8i/ch_13.html) | [SELECT](http://psoug.org/definition/SELECT.htm) [DISTINCT](http://psoug.org/definition/DISTINCT.htm) TBL$OR$IDX$PART$NUM(BBUKDW.VISIT\_TX, 0, CALENDAR\_DT) [FROM](http://psoug.org/definition/FROM.htm) (   [SELECT](http://psoug.org/definition/SELECT.htm) D.CALENDAR\_DT CALENDAR\_DT   [FROM](http://psoug.org/definition/FROM.htm) BBUKDW.JPL\_DAY D   [WHERE](http://psoug.org/definition/WHERE.htm) D.FINANCIAL\_WEEK\_ID>=200218   [AND](http://psoug.org/definition/AND.htm) D.FINANCIAL\_WEEK\_ID <=200222) [ORDER BY](http://psoug.org/definition/ORDER_BY.htm) 1; | |

**Table Partitioning**

Now a days enterprises run databases of hundred of Gigabytes in size. These databases are known as

Very Large Databases (VLDB). From Oracle Ver. 8.0  Oracle has provided the feature of

table partitioning i.e. you can partition a table according to some criteria . For example you

have a SALES table with the following structure

Suppose this table contains millions of records, but all the records belong to four years only i.e. 1991, 1992, 1993   
and 1994.  And most of the time you are concerned about only one year i.e. you give queries like the following

select sum(amt) from sales where year=1991;

select product,sum(amt) from sales where year=1992

          Group by product;

Now whenever you give queries like this Oracle will search the whole table. If you partition this table according to   
year, then the performance is improve since oracle will scan only a single partition instead of whole table.

**CREATING PARTITION TABLES**

To create a partition table give the following statement

create table sales (year number(4),

                    product varchar2(10),

                   amt number(10,2))

     partition by range (year)

     partition p1 values less than (1992) tablespace u1,

     partition p2 values less than (1993) tablespace u2,

     partition p3 values less than (1994) tablespace u3,

     partition p4 values less than (1995) tablespace u4,

   partition p5 values less than (MAXVALUE) tablespace u5;

In the above example sales table is created with 5 partitions. Partition p1 will contain rows of year 1991 and   
it will be stored in tablespace u1. Partition p2 will contain rows of year 1992 and it will be stored in tablespace u2.   
Similarly p3 and p4.

In the above example if you don’t specify the partition p4 with values less than MAVALUE, then you will not be   
able to insert any row with year above 1994.

Although not required, you can place partitions in different tablespaces. If you place partitions in different tablespaces   
then you can isolate problems due to failures as only a particular partition will not be available and rest of the   
partitions will still be available.

The above example the table is partition by range.

 In Oracle you can partition a table by

* Range Partitioning
* Hash Partitioning
* List Partitioning
* Composite Partitioning

**Range Partitioning**

This type of partitioning is useful when dealing with data that has logical ranges into which it can be distributed;   
for example, value of year. Performance is best when the data evenly distributes across the range

**Hash partitioning**

Use hash partitioning if your data does not easily lend itself to range partitioning, but you would like to partition for   
performance and manageability reasons. Hash partitioning provides a method of evenly distributing data across a   
specified number of partitions. Rows are mapped into partitions based on a hash value of the partitioning key

The following example shows how to  create a hash partition table.

The following example creates a hash-partitioned table. The partitioning column is partno, four partitions are created   
and assigned system generated names, and they are placed in four named tablespaces (tab1,tab2, ...).

CREATE TABLE products

     (partno NUMBER,

      description VARCHAR2 (60))

   PARTITION BY HASH (partno)

   PARTITIONS 4

   STORE IN (tab1, tab2, tab3, tab4);

**List Partitioning**

Use list partitioning when you require explicit control over how rows map to partitions. You can specify a list of discrete

values for the partitioning column in the description for each partition. This is different from range partitioning, where a

range of values is associated with a partition, and from hash partitioning, where the user has no control of the row to

partition mapping.

List partitioning allows unordered and unrelated sets of data to be grouped and organized together very naturally

The following example creates a table with list partitioning

Create table customers (custcode number(5),

                  Name varchar2(20),

                  Addr varchar2(10,2),

                  City varchar2(20),

                  Bal number(10,2))

     Partition by list (city),

Partition north\_India values (‘DELHI’,’CHANDIGARH’),

Partition east\_India values (‘KOLKOTA’,’PATNA’),

Partition south\_India values (‘HYDERABAD’,’BANGALORE’,

                               ’CHENNAI’),

Partition west India values (‘BOMBAY’,’GOA’);

If a row is inserted in the above table then oracle maps the value of city column and whichever partition list matches the

city column the row is stored in that partition.

**COMPOSITE PARTITONING**

Composite partitioning partitions data using the range method, and within each partition, subpartitions it using   
the hash method. Composite partitions are ideal for both historical data and striping, and provide improved   
manageability of range partitioning and data placement, as well as the parallelism advantages of hash partitioning.

When creating composite partitions, you specify the following:

* Partitioning method: range
* Partitioning column(s)
* Partition descriptions identifying partition bounds
* Subpartitioning method: hash
* Subpartitioning column(s)
* Number of subpartitions for each partition or descriptions of subpartitions

The following statement creates a composite-partitioned table. In this example, three range partitions are created, each   
containing eight subpartitions. Because the subpartitions are not named, system generated names are assigned, but the   
STORE IN clause distributes them across the 4 specified tablespaces (tab1, ...,tab4).

CREATE TABLE PRODUCTS (partno NUMBER,

      description VARCHAR(32),

      costprice NUMBER)

  PARTITION BY RANGE (partno)

     SUBPARTITION BY HASH(description)

    SUBPARTITIONS 8 STORE IN (tab1, tab2, tab3, tab4)

      (PARTITION p1 VALUES LESS THAN (100),

       PARTITION p2 VALUES LESS THAN (200),

       PARTITION p3 VALUES LESS THAN (MAXVALUE));

**ALTERING PARTITION TABLES**

**To add a partition**

You can add add a new partition to the "high" end (the point after the last existing partition). To add a partition

at the beginning or in the middle of a table, use the SPLIT PARTITION clause.

For example to add a partition to sales table give the following command.

alter table sales add partition p6 values less than (1996);

To add a partition to a Hash Partition table give the following command.

Alter table products add partition;

Then Oracle adds a new partition whose name is system generated and it is created in the default tablespace.

To add a partition by user define name and in your specified tablespace give the following command.

Alter table products add partition p5 tablespace u5;

To add a partition to a List partition table give the following command.

alter table customers add partition central\_India

            values (‘BHOPAL’,’NAGPUR’);

Any value in the set of literal values that describe the partition(s) being added must not exist in any of the other partitions   
of the table.

**Coalescing Partitions**

Coalescing partitions is a way of reducing the number of partitions in a hash-partitioned table, or the number of subpartitions in a composite-partitioned table. When a hash partition is coalesced, its contents are redistributed into one or more remaining partitions determined by the hash function. The specific partition that is coalesced is selected by Oracle, and is dropped after its contents have been redistributed.

To coalesce a hash partition give the following statement.

Alter table products coalesce partition;

This reduces by one the number of partitions in the table products.

**DROPPING PARTITIONS**

To drop a partition from Range Partition table, List Partition or Composite Partition table give the following command.

Alter table sales drop partition p5;

Once you have drop the partition and if you have created a global index on the table. Then you have to rebuild the global index after dropping the partition by giving the following statement.

Alter index sales\_ind rebuild;

To avoid rebuilding of indexes after dropping of the partitions you can also first delete all the records and then drop  
the partition like this

Delete from sales where year=1994;

Alter table sales drop partition p4;

This method is most appropriate for small tables, or for large tables when the partition being dropped contains a small percentage of the total data in the table.

Another method of dropping partitions is give the following statement.

ALTER TABLE sales DROP PARTITION p5 UPDATE GLOBAL INDEXES;

This causes the global index to be updated at the time the partition is dropped.

## Exchanging a Range, Hash, or List Partition

To exchange a partition of a range, hash, or list-partitioned table with a nonpartitioned table, or the reverse, use the ALTER TABLE ... EXCHANGE PARTITION statement. An example of converting a partition into a nonpartitioned table follows. In this example, tablestocks can be range, hash, or list partitioned.

ALTER TABLE stocks

    EXCHANGE PARTITION p3 WITH stock\_table\_3;

## Merging Partitions

Use the ALTER TABLE ... MERGE PARTITIONS statement to merge the contents of two partitions into one partition. Te two original partitions are dropped, as are any corresponding local indexes.

You cannot use this statement for a hash-partitioned table or for hash subpartitions of a composite-partitioned table.

You can only merged two adjacent partitions, you cannot merge non adjacent partitions.

For example the merge the partition p2 and p3 into one partition p23 give the following statement.

Alter table sales merge partition p2 and p3 into

partition p23;

## Modifying Partitions: Adding Values

Use the MODIFY PARTITION ... ADD VALUES clause of the ALTER TABLE statement to extend the value list of an existing partition. Literal values being added must not have been included in any other partition's value list. The partition value list for any corresponding local index partition is correspondingly extended, and any global index, or global or local index partitions, remain usable.

The following statement adds a new set of cities ('KOCHI', 'MANGALORE') to an existing partition list.

ALTER TABLE customers

   MODIFY PARTITION south\_india

      ADD VALUES ('KOCHI', 'MANGALORE');

## Modifying Partitions: Dropping Values

Use the MODIFY PARTITION ... DROP VALUES clause of the ALTER TABLE statement to remove literal values from the value list of an existing partition. The statement is always executed with validation, meaning that it checks to see if any rows exist in the partition that correspond to the set of values being dropped. If any such rows are found then Oracle returns an error message and the operation fails. When necessary, use a DELETE statement to delete corresponding rows from the table before attempting to drop values.

You cannot drop all literal values from the value list describing the partition. You must use the ALTER TABLE ... DROP PARTITIONstatement instead.

The partition value list for any corresponding local index partition reflects the new value list, and any global index, or global or local index partitions, remain usable.

The statement below drops a set of cities (‘KOCHI' and 'MANGALORE') from an existing partition value list.

ALTER TABLE customers

   MODIFY PARTITION south\_india

      DROP VALUES (‘KOCHI’,’MANGALORE’);

## SPLITTING PARTITIONS

You can split a single partition into two partitions. For example to split the partition p5

of sales table into two partitions give the following command

Alter table sales split partition p5 into

  (Partition p6 values less than (1996),

   Partition p7 values less then (MAXVALUE));

## TRUNCATING PARTITON

Truncating a partition will delete all rows from the partition.

To truncate a partition give the following statement

Alter table sales truncate partition p5;

## LISTING INFORMATION ABOUT PARTITION TABLES

To see how many partitioned tables are there in your schema give the following statement

Select \* from user\_part\_tables;

To see on partition level partitioning information

Select \* from user\_tab\_partitions;