Oracle表分区实现以及查询

范围分区
列表分区
散列分区
范围-散列分区
范围-列表分区

基础表为Oracle用户hr下的job_history
创建分区使用的表名为hr_job_history

1.范围分区
范围分区将数据基于指定的范围映射到不同的分区，创建表时可以同时创建分区
当范围变大或者想让范围变得更小时，可以添加分区

1)根据某个字段值(或者maxvalue)创建分区

```
create table hr_job_history(
    employ_id number(6) not null,
    start_date date,
    end_date date,
    job_id varchar2(10),
    department_id number(4)
)
partition by range (employ_id)
(
    partition hr_job_history_part01 values less than(140),
    partition hr_job_history_part02 values less than(180),
    partition hr_job_history_part03 values less than (maxvalue)
);
```

2)按时间划分

```
create table hr_job_history(
    employ_id number(6) not null,
    start_date date,
    end_date date,
    job_id varchar2(10),
    department_id number(4)
)
partition by range(end_date)
(
    partition hr_job_history_part01 values less than(to_date('2003-01-01','YYYY-MM-DD')),
    partition hr_job_history_part02 values less than(to_date('2006-08-01','YYYY-MM-DD')),
    partition hr_job_history_part03 values less than(to_date('2009-01-01','YYYY-MM-DD'))
);
```

2.列表分区
该分区的特点是某列的值只有几个,基于这样的特点我们采用列表分区

```
create table hr_job_history(
    employ_id number(6) not null,
    start_date date,
    end_date date,
    job_id varchar2(10),
    department_id number(4)
)
partition by list (department_id)
(
    partition hr_job_history_part01 values less than(20,50),
    partition hr_job_history_part02 values less than(60,80),
    partition hr_job_history_part03 values less than (90,110)
);
```

3.散列分区
这类分区是在列值上使用散列算法，以确定将行放入哪个分区
当列的值没有合适的条件时,建议使用散列分区
散列分区为通过指定分区编号来均匀分布数据的一种分区类型，
因为通过在I/O设备上进行散列分区，使得这些分区大小一致

```
create table hr_job_history(
    employ_id number(6) not null,
    start_date date,
    end_date date,
    job_id varchar2(10),
    department_id number(4)
)
partition by hash (employ_id)
(
    partition hr_job_history_part01,
    partition hr_job_history_part02,
    partition hr_job_history_part03
);
```

4.范围-列表分区
这种分区基于范围分区-列表分区
表首先按照某列进行范围分区，然后再按某列进行列表分区，分区之中的分区被称为子分区

```
create table hr_job_history(
    employ_id number(6) not null,
    start_date date,
    end_date date,
    job_id varchar2(10),
    department_id number(4)
)
partition by rang(end_date) subpartition by list(department_id)
(
    partition hr_job_history_part01 values less than(to_date('2003-01-01','YYYY-MM-DD'))
        (
            subpartition hr_job_history_part011 values(20,50),
            subpartition hr_job_history_part012 values(60,80),
            subpartition hr_job_history_part013 values(90,110)
        ),
    partition hr_job_history_part02 values less than(to_date('2006-08-01','YYYY-MM-DD'))
        (
            subpartition hr_job_history_part021 values(20,50),
            subpartition hr_job_history_part022 values(60,80),
            subpartition hr_job_history_part023 values(90,110)
        ),
    partition hr_job_history_part03 values less than(to_date('2009-01-01','YYYY-MM-DD'))
        (
            subpartition hr_job_history_part031 values(20,50),
            subpartition hr_job_history_part032 values(60,80),
            subpartition hr_job_history_part033 values(90,110)
        )
);
```

5.范围-散列分区
这种分区是基于范围分区-散列分区
表首先按某列进行范围分区，然后按某列进行散列分区

```
create table hr_job_history(
    employ_id number(6) not null,
    start_date date,
    end_date date,
    job_id varchar2(10),
    department_id number(4)
)
partition by rang(end_date) subpartition by hash(employ_id)
(
    partition hr_job_history_part01 values less than(to_date('2003-01-01','YYYY-MM-DD'))
        (
            subpartition hr_job_history_part011,
            subpartition hr_job_history_part012,
            subpartition hr_job_history_part013
        ),
    partition hr_job_history_part02 values less than(to_date('2006-08-01','YYYY-MM-DD'))
        (
            subpartition hr_job_history_part021,
            subpartition hr_job_history_part022,
            subpartition hr_job_history_part023
        ),
    partition hr_job_history_part03 values less than(to_date('2009-01-01','YYYY-MM-DD'))
        (
            subpartition hr_job_history_part031,
            subpartition hr_job_history_part032,
```