

BÀI THỰC HÀNH SỐ 3. TẠO DATABASE LINK TRÊN RADMIN MẠNG VPN

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TÓM TẮT NỘI DUNG THỰC HÀNH

Sinh viên tìm hiểu việc thiết lập kết nối giữa các cơ sở dữ liệu Oracle qua sự hướng dẫn của giảng viên thực hành. Trong đó, các kiến thức cần lưu ý bao gồm:

- o Database link là gì?
- o Các loại database link
- o Cú pháp tạo, xóa database link.

Ngoài ra có thể tham khảo thêm chi tiết tại đường dẫn:

https://docs.oracle.com/cd/B28359_01/server.111/b28310/ds_concepts002.htm

hoặc video hướng dẫn thực hiện kết nối tại đường dẫn

<https://www.youtube.com/watch?v=N-NShW9cusQ>.

Keywords: Database Link, Oracle, Role, Grant, Connect, ...

1. NỘI DUNG THỰC HÀNH

1.1. 6 QUERY

Tại chi nhánh 1:

Query 1:

```
SQL> SELECT p.PackID, p.Name
  2 FROM cn1.PACKSERVICE p WHERE p.PackID NOT IN (SELECT PackID FROM cn1.STATIONSERVICE_STAFF WHERE StationID = 'S
n1') AND EXISTS (SELECT 1 FROM cn2.STATIONSERVICE_STAFF@cn2_dbblink_staff1 WHERE StationID = 'Station2');

PACKID          NAME
-----
Pack2           Net Wide 1
Pack4           Net Wide 2
```

Query 2:

```
SQL> SELECT s1.PackId, p1.PromoID, p1.Rate
  2 FROM cn1.STATIONSERVICE_ADMIN s1
  3 JOIN cn1.PROMOTION p1 ON s1.PackId = p1.PackId AND p1.EndDate > TO_DATE('18/11/2023', 'DD/MM/YYYY')
  4 WHERE (s1.JamRate > 0.5 OR s1.NumberDom > 1000)
  5 UNION
  6 SELECT s2.PackId, p2.PromoID, p2.Rate
  7 FROM cn2.STATIONSERVICE_ADMIN@cn2_dbblink_ga s2
  8 JOIN cn2.PROMOTION@cn2_dbblink_ga p2 ON s2.PackId = p2.PackId AND p2.EndDate > TO_DATE('18/11/2023', 'DD/MM/
  9 WHERE (s2.JamRate > 0.5 OR s2.NumberDom > 1000);

PACKID          PROMOID          RATE
-----
Pack1           Promo03           .6
Pack2           Promo06           .5
```

Query 3:

```
SQL> SELECT p1.PackId, COUNT(p1.PromoID) AS PromoCount1
  2 FROM cn1.PROMOTION p1
  3 WHERE EXTRACT(MONTH FROM p1.StartDate) = 11 AND EXTRACT(MONTH FROM p1.EndDate) = 11
  4 GROUP BY p1.PackId
  5 UNION
  6 SELECT p2.PackId, COUNT(p2.PromoID) AS PromoCount2
  7 FROM cn2.PROMOTION@cn2_dbblink_admin1 p2
  8 WHERE EXTRACT(MONTH FROM p2.StartDate) = 11 AND EXTRACT(MONTH FROM p2.EndDate) = 11
  9 GROUP BY p2.PackId;

PACKID          PROMOCOUNT1
-----
Pack5           1
Pack2           1
```

Query 4:

```
SQL> SELECT s1.PackId, SUM(p1.PricePerMonth * s1.NumberDom * (1 - 0.1)) AS TotalRevenue
2 FROM cn1.STATIONSERVICE_ADMIN s1
3 JOIN cn1.PACKSERVICE p1 ON s1.PackId = p1.PackID
4 JOIN cn1.STATION st1 ON s1.StationID = st1.StationID
5 GROUP BY s1.PackId
6 UNION
7 SELECT s2.PackId,
8 SUM(p2.PricePerMonth * s2.NumberDom * (1 - 0.125)) AS TotalRevenue
9 FROM cn2.STATIONSERVICE_ADMIN@cn2_dblink_ga s2
10 JOIN cn2.PACKSERVICE@cn2_dblink_ga p2 ON s2.PackId = p2.PackID
11 JOIN cn2.STATION@cn2_dblink_ga st2 ON s2.StationID = st2.StationID
12 GROUP BY s2.PackId;
```

PACKID	TOTALREVENUE
Pack1	5014170
Pack5	1055808
Pack3	1637820
Pack1	1895932.5
Pack2	2142892.5
Pack4	2432456.25
Pack5	925470

Query 5:

```
19 WHERE p1.Rate < 0.5 AND p1.EndDate > TO_DATE('18/11/2023', 'DD/MM/YYYY')
20 )
21 UNION
22 SELECT st2.StationID
23 FROM cn2.STATION@cn2_dblink_ga st2
24 WHERE st2.StationID IN (
25 SELECT StationID
26 FROM (
27 SELECT s2.StationID
28 FROM cn2.STATIONSERVICE_ADMIN@cn2_dblink_ga s2
29 WHERE s2.PackId IN (
30 SELECT p2.PackID FROM cn2.PACKSERVICE@cn2_dblink_ga p2 WHERE p2.SpeedDown > 200
31 )
32 GROUP BY s2.StationID
33 ORDER BY COUNT(s2.PackId) DESC
34 )
35 WHERE ROWNUM <= 1
36 )
37 AND st2.StationID NOT IN (
38 SELECT StationID
39 FROM cn2.PROMOTION@cn2_dblink_ga p2
40 WHERE p2.Rate < 0.5 AND p2.EndDate > TO_DATE('18/11/2023', 'DD/MM/YYYY')
41 );
```

STATIONID
Station2

Tại chi nhánh 2:

Query 6:

```
SQL> SELECT DISTINCT P.PackId, AVG(A.Rate) AS AvgRate, MIN(A.EndDate - A.StartDate) AS MinDuration
2 FROM (
3 SELECT * FROM cn1.PROMOTION@cn1_dblink_admin2
4 UNION ALL
5 SELECT * FROM cn2.PROMOTION
6 ) A
7 JOIN cn2.PACKSERVICE P ON A.PackId = P.PackId
8 WHERE P.maxVolumne > 300
9 GROUP BY P.PackId;
```

PACKID	AVGRATE	MINDURATION
Pack5	.5	45
Pack2	.5	738

1.2. KIẾN TRÚC PHÂN QUYỀN

Tại trạm 1:

User GeneralAdmin:

```
SQL> create user GeneralAdmin identified by ga;
User created.

SQL> grant create, connect to GeneralAdmin;
grant create, connect to GeneralAdmin
      *
ERROR at line 1:
ORA-01917: user or role 'CREATE' does not exist

SQL> grant create session, connect to GeneralAdmin;
Grant succeeded.

SQL> grant select on cn1.PACKSERVICE to GeneralAdmin;
Grant succeeded.

SQL> grant select on cn1.STATION to GeneralAdmin;
Grant succeeded.

SQL> grant select on cn1.STATIONSERVICE_ADMIN to GeneralAdmin;
Grant succeeded.

SQL> grant select on cn1.STATIONSERVICE_STAFF to GeneralAdmin;
Grant succeeded.

SQL> grant select on cn1.PROMOTION to GeneralAdmin;
Grant succeeded.
```

User Admin1:

```
SQL>
SQL> create user Admin1 identified by admin1;

User created.

SQL> grant select on cn1.PACKSERVICE to Admin1;

Grant succeeded.

SQL> grant select on cn1.STATION to Admin1;

Grant succeeded.

SQL> grant select on cn1.STATIONSERVICE_ADMIN to Admin1;

Grant succeeded.

SQL> grant select on cn1.STATIONSERVICE_STAFF to Admin1;

Grant succeeded.

SQL> grant select on cn1.PROMOTION to Admin1;

Grant succeeded.
```

User Staff1:

```
SQL> create user Staff1 identified by staff1;

User created.

SQL> grant select on cn1.PACKSERVICE to Staff1;

Grant succeeded.

SQL> grant select on cn1.STATIONSERVICE_STAFF to Staff1;

Grant succeeded.
```

Tại trạm 2:

User cn2:

```
SQL> create user cn2 identified by cn2;
User created.

SQL> grant connect to cn2;
Grant succeeded.

SQL> grant create session to cn2;
Grant succeeded.

SQL> grant select on cn1.PACKSERVICE to cn2;
Grant succeeded.

SQL> grant select on cn1.STATION to cn2;
Grant succeeded.

SQL> grant select on cn1.STATIONSERVICE_ADMIN to cn2;
Grant succeeded.

SQL> grant select on cn1.STATIONSERVICE_STAFF to cn2;
Grant succeeded.

SQL> grant select on cn1.PROMOTION to cn2;
Grant succeeded.
```

User Admin2:

```
SQL> create user Admin2 identified by admin2;
User created.

SQL> grant select on cn2.PACKSERVICE to Admin2;
Grant succeeded.

SQL> grant select on cn2.STATION to Admin2;
Grant succeeded.

SQL> grant select on cn2.STATIONSERVICE_ADMIN to Admin2;
Grant succeeded.

SQL> grant select on cn2.STATIONSERVICE_STAFF to Admin2;
Grant succeeded.

SQL> grant select on cn2.PROMOTION to Admin2;
Grant succeeded.
```

User Staff2:

```
SQL> create user Staff2 identified by staff2;
User created.

SQL> grant select on cn2.PACKSERVICE to Staff2;
Grant succeeded.

SQL> grant select on cn2.STATIONSERVICE_STAFF to Staff2;
Grant succeeded.
```