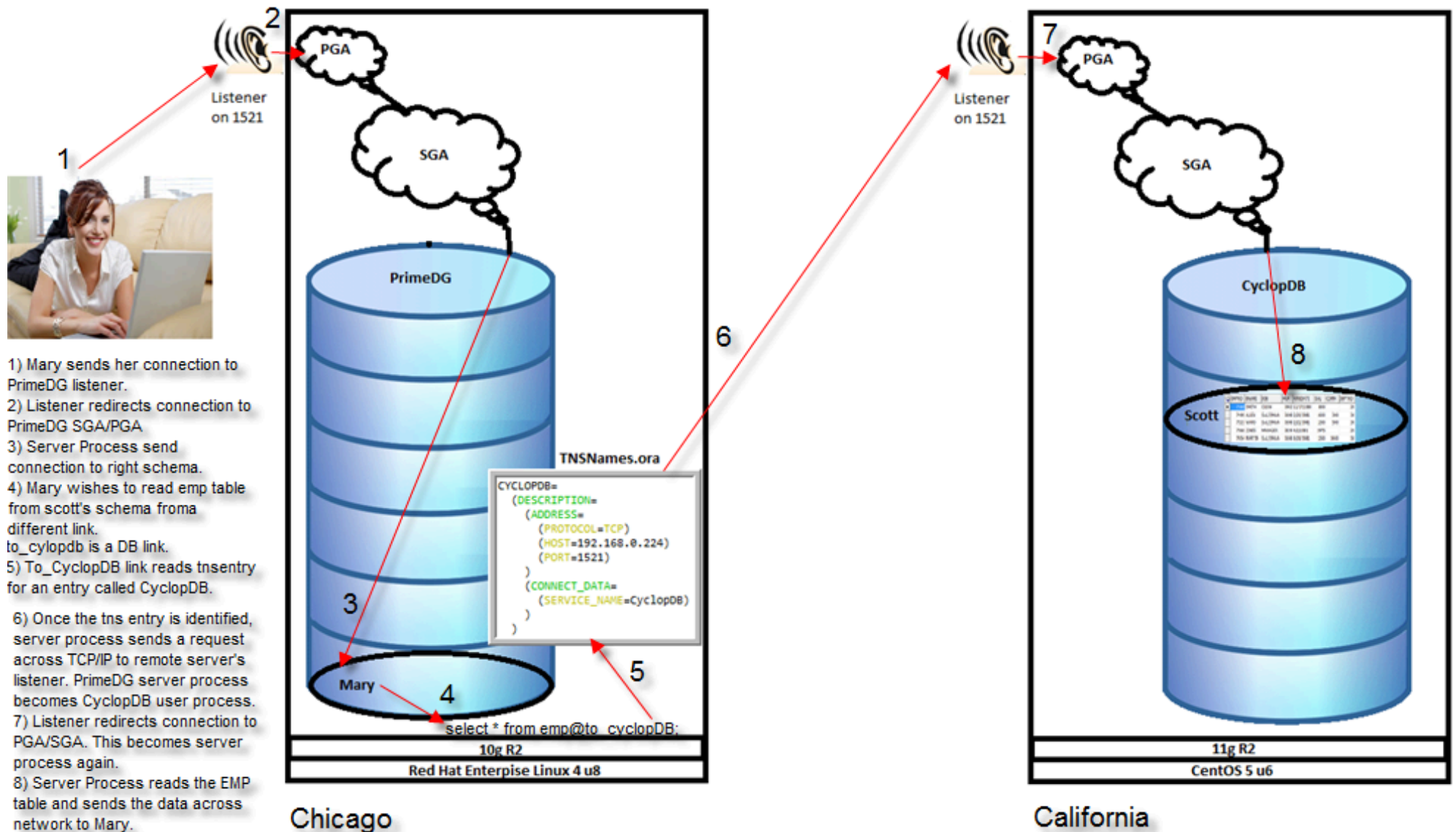


How to create Oracle Database Link?

The task is to create a DB link from PrimeDG (10g hosted on 192.168.0.223) to CycloDB (11g database hosted on 192.168.0.224) so that Mary can read scott's EMP table which is hosted on a remote server.



Let's see how this is possible.

1. User Creation [DBA]

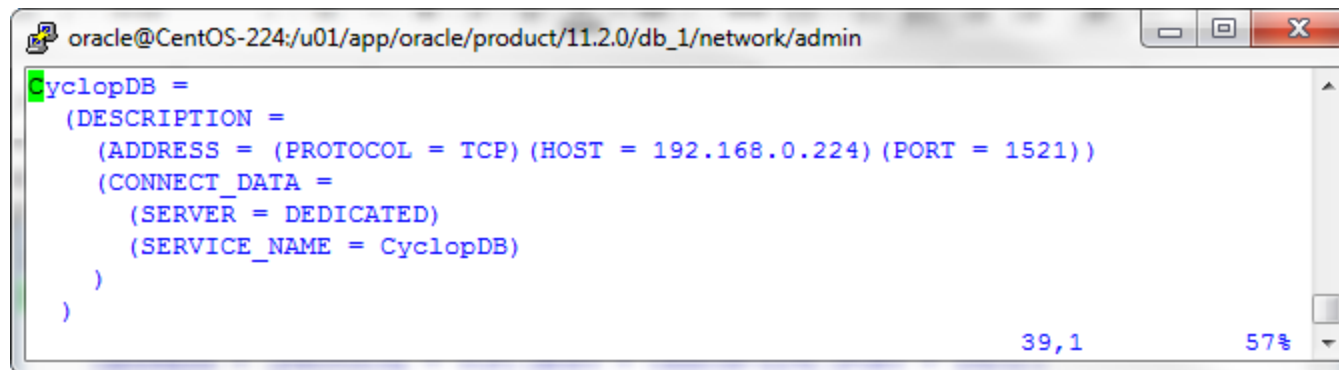
On PrimeDG database, DBA creates a user called Mary.

- As oracle, DBA Login to database server via putty.
- DBA sets the database SID
 - export ORACLE_SID=PrimeDG
- DBA login to database as sys
 - sqlplus / as sysdba
- DBA creates a user called Mary.
 - Create user Mary identified by abc123;
- DBA Grants basic privileges to Mary.
 - Grant connect, create view, create synonym, create sequence, resource, unlimited tablespace to mary;
- Since DBA wants Mary to handle her own DB links, he provide create database link grant to her.
 - grant create database link to mary;
- DBA exists out of putty session and notifies Mary that her database account is now active.
 - exit;

2. Add TNS Entry [DBA]

DBA Creates a TNS Entry in 192.168.0.223's tnsnames.ora file. Instead of using "netca" to create the file, he thinks it is much easier to add the entry into the tnsnames.ora file manually. So he adds it by doing the following.

- cd \$TNS_ADMIN
- vi tnsnames.ora
 - And adds the following



The screenshot shows a terminal window with the title bar 'oracle@CentOS-224:/u01/app/oracle/product/11.2.0/db_1/network/admin'. The terminal content displays the following text in a monospaced font:

```
CyclopDB =  
(DESCRIPTION =  
  (ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.0.224) (PORT = 1521))  
  (CONNECT_DATA =  
    (SERVER = DEDICATED)  
    (SERVICE_NAME = CyclopDB)  
  )  
)
```

At the bottom right of the terminal window, the text '39,1' and '57%' is visible.

- Text version is:

```
CyclopDB =  
  (DESCRIPTION =
```

```

        (ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.0.224) (PORT = 1521))
    (CONNECT_DATA =
        (SERVER = DEDICATED)
        (SERVICE_NAME = CyclopDB)
    )
)

```

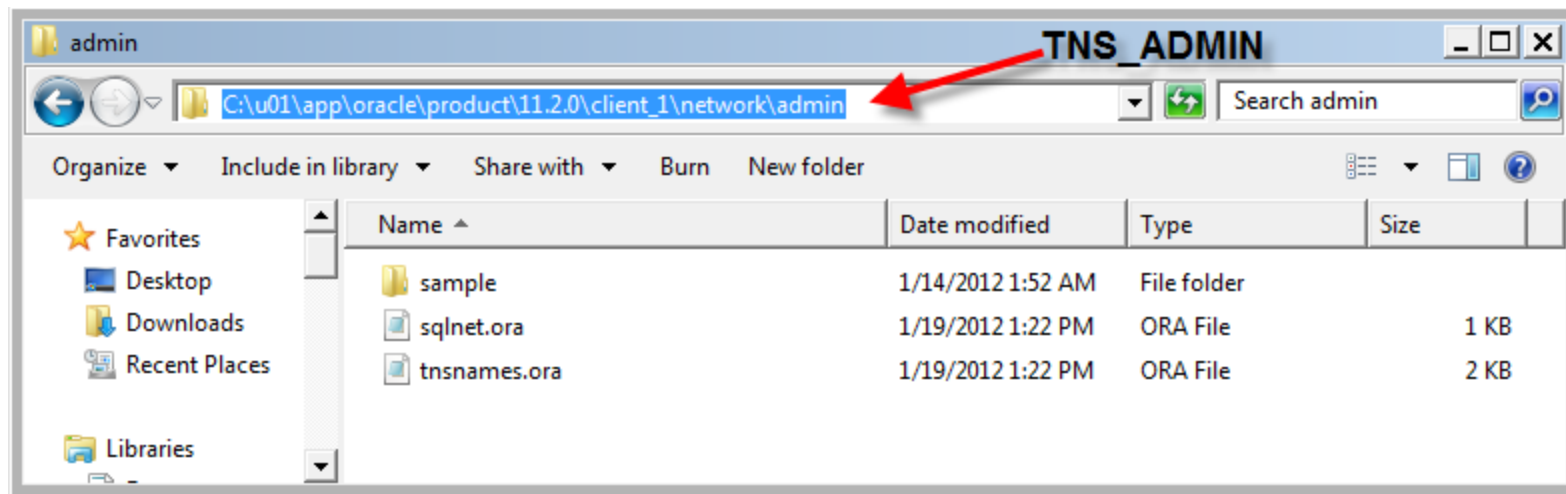
3. Mary is being notified.

DBA now notifies Mary that a user called “Mary” is created in PrimeDG database and that user has been given grant to create database link.

4. Mary verifies a connection string to PrimeDG is created in tnsnames.ora file

Since Mary is notified that database user is created for her, she adds the database address in her (local laptop's) tnsnames.ora file.

She changes her location to TNS_ADMIN directory in her local laptop



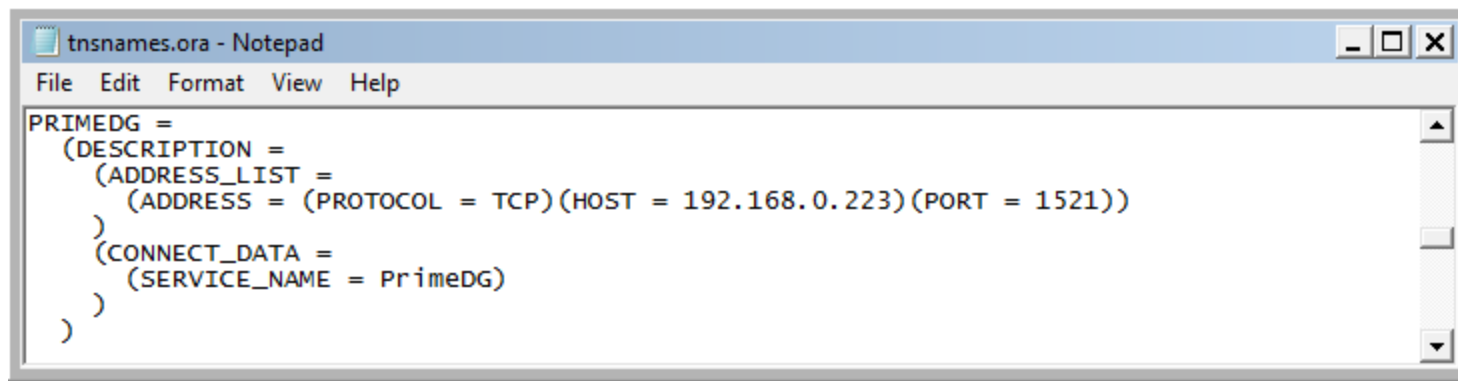
She opens up tnsnames.ora file and adds the following address in her database address book (tnsnames.ora).

```

PRIMEDG =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.0.223) (PORT = 1521))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = PrimeDG)
    )
  )

```

...as shown below:

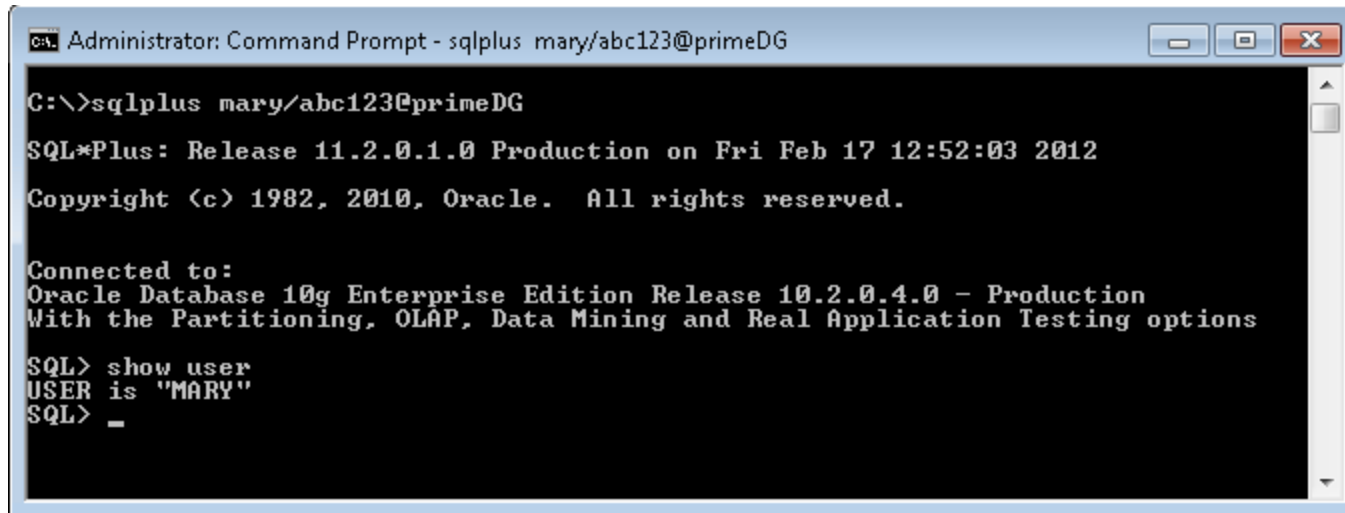


```
tnsnames.ora - Notepad
File Edit Format View Help

PRIME =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = 192.168.0.223)(PORT = 1521))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = Prime)
    )
  )
```

5. Mary establishes a connection to Prime database from command prompt.

SQL> sqlplus mary/abc123;



```
Administrator: Command Prompt - sqlplus mary/abc123@prime
C:\>sqlplus mary/abc123@prime
SQL*Plus: Release 11.2.0.1.0 Production on Fri Feb 17 12:52:03 2012
Copyright (c) 1982, 2010, Oracle. All rights reserved.

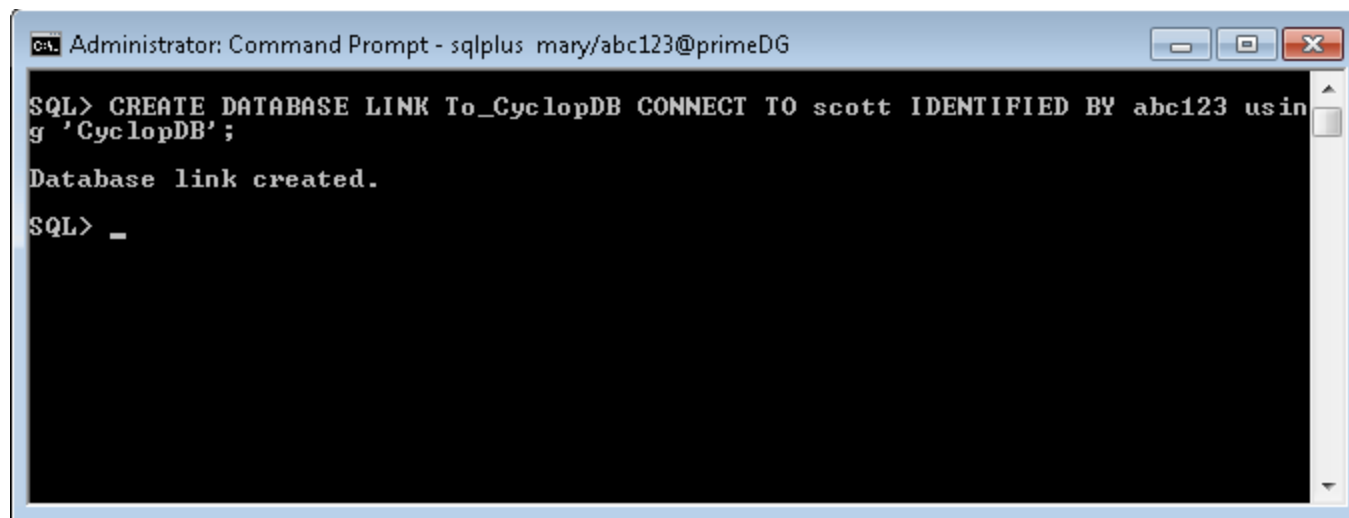
Connected to:
Oracle Database 10g Enterprise Edition Release 10.2.0.4.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> show user
USER is 'MARY'
SQL> _
```

6. Mary creates Database Link.

Mary remembers DBA has mentioned that he has given her the grant to create database link. She now creates dblink.

SQL> CREATE DATABASE LINK **To_CyclopDB** CONNECT TO scott IDENTIFIED BY abc123 using **CyclopDB**;



```
Administrator: Command Prompt - sqlplus mary/abc123@primeDG

SQL> CREATE DATABASE LINK To_CyclopDB CONNECT TO scott IDENTIFIED BY abc123 using 'CyclopDB';

Database link created.

SQL> _
```

Let's see what this means.

1. **To_CyclopDB** is Database Link name Mary wants to use later (and)
2. **CyclopDB** is the name in the tnsnames.ora file.

7. DB Link Verification.

Mary wants to verify if the db link is created. She reads from all_db_links.

Query is:

```
set linesize 200
set pagesize 200
col owner format a20
col db_link format a32
col host format a15
col username format a20
select * from all_db_links;
```

```
Administrator: Command Prompt - sqlplus mary/abc123@primeDG

SQL> col owner format a12
SQL> col db_link format a12
SQL> col host format a15
SQL> col username format a10
SQL> select * from all_db_links;

OWNER          DB_LINK          USERNAME          HOST          CREATED
-----
MARY           TO_CYCLOPDB      SCOTT             CyclopDB      17-FEB-12

SQL> _
```

8. Testing

Since DB link is created, mary is now able to read any table called from Scott's schema which is in CyclopDB on a remote DB Server.

SQL> select empno, ename, sal, comm from emp@**To_CyclopDB** where sal between 2000 and 3000;

```
Administrator: Command Prompt - sqlplus mary/abc123@primeDG

SQL> select empno, ename, sal, comm from emp@To_CyclopDB where sal between 2000
and 3000;

EMPNO  ENAME      SAL      COMM
-----
7566   JONES      2975
7698   BLAKE      2850
7782   CLARK      2450
7788   SCOTT      3000
7902   FORD       3000

SQL> _
```

Mary is happy. She got what she wanted.

Hope this helps.

--Moid