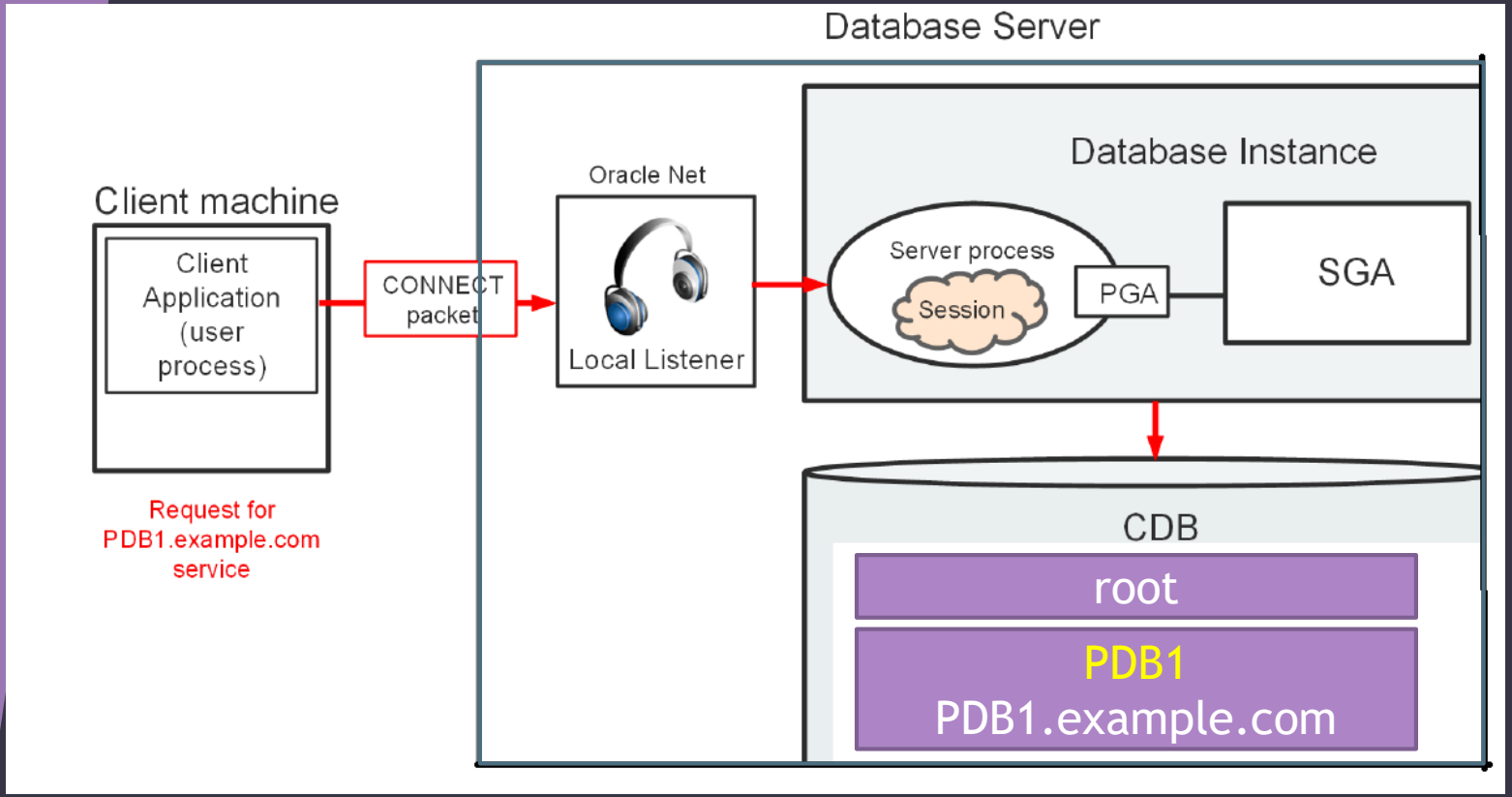
Configuring the Oracle Network Environment

Establishing a Connection and Session



1- the listener receives connect packet.

2- if the service name is valid then the Listener create Dedicated SP, else it will be Error

3-the listener connect to the SP and pass The initialization info to it.

4- the SP check the authentication , if ok Then it create session

5- now the SP is acting like Agent.

Configuring the Oracle Network Environment

The server process responsible for :

- Parsing and running any SQL statements issued through the application
- Checking the database buffer cache for data blocks required to perform SQL statements
- Reading necessary data blocks from data files on the disk into the database buffer cache portion of the System Global Area (SGA), if the blocks are not already present in the SGA
- Managing all sorting activity. The Sort Area is a memory area that is used to work with sorting; it is contained in a portion of memory that is associated with the Program Global Area (PGA)
- Returning results to the user process in such a way that the application can process the information
- Reading auditing options and reporting user processes to the audit destination

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The Default listener

- During an Oracle Database installation, Oracle Universal Installer launches Oracle Net Configuration Assistant and creates a local listener named LISTENER.
  - LISTENER is automatically populated with available database services through a feature called dynamic service registration.
  - LISTENER listens on the following TCP/IP protocol address:

```
ADDRESS=(PROTOCOL=tcp)(HOST=host_name)(PORT=1521))
```

- Without any configuration, you can access your database instance immediately through LISTENER.
- If the listener name is LISTENER and it cannot be resolved, a protocol address of TCP/IP, and a port number of 1521 is assumed.

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Service Registration

Dynamic registration:
We configure :
1. listener.ora
2. tnsnames.ora
3. Local_listener parameter

Refer to lesson:
creating dynamic listener example

Static registration:
We configure :
1. listener.ora by adding:
   SID_LIST

Refer to lesson:
creating Static listener example

Configuring the Oracle Network Environment

Tools to configure listeners

- Oracle Net Manager **netmgr**
- Oracle Net Configuration Assistant (netca)
- Listener Control utility
- Enterprise Manager Cloud Control
- Database Configuration Assistant (allows you to create a listener when you create a CDB)

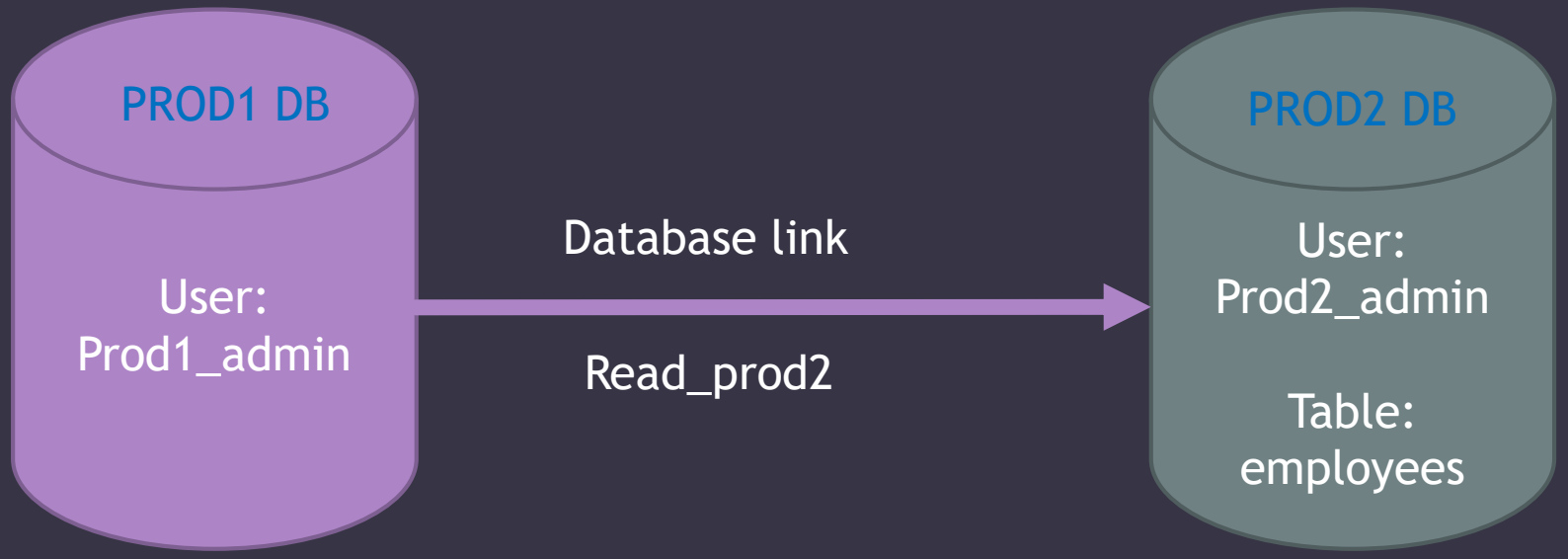
Configuring the Oracle Network Environment

CREATE DATABASE LINK

- A **database link** is a schema object in one database that enables you to access objects on another database.
- The other database need not be an Oracle Database system. However, to access non-Oracle systems you must use Oracle Heterogeneous Services.
- After you have created a database link, you can use it in SQL statements to refer to tables, views, and PL/SQL objects in the other database by appending @dblinkname to the table, view, or PL/SQL object name.
- To create a private database link, you must have the CREATE DATABASE LINK system privilege.
- To create a public database link, you must have the CREATE PUBLIC DATABASE LINK system privilege

Configuring the Oracle Network Environment

CREATE DATABASE LINK




```
CREATE DATABASE LINK <database_link_name>
CONNECT TO <user> IDENTIFIED BY <pwd>
USING '<connect_string_for_remote_db>';
```

Dictionary : dba_db_links