Connectivity and Services in Oracle Multitenant

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Objectives

By the end of this lecture, you should be able to:

• Manage services in a multitenant container

• Dedicate a Listener to a PDB

Services in Multitenant Environment

- A service is automatically created with each PDB

- Registration in the Listener is automatic (by LREG)

- To manually register it:

```
ALTER SYSTEM REGISTER;
```

- To obtain list of the services in the CDB:

```
SELECT SERVICE_ID, NAME, PDB FROM V$SERVICES;
```

- To see if a service is registered:

```
lsnrctl services
```

Possible Connection Methods

- Oracle Net Services (`tnsnames.ora`)

- Easy connect:

```
@//<hostname>[:port]/<service name>
```

- Default Connect String can be set in the OS level using TWO_TASK (in Linux) and LOCAL (Windows)

- **Best Practice**: if you have more than one CDB running in the same host, configure separate listeners for each CDB.

About Creating Services

- If Oracle Restart is configured, use the SRVCTL

- When using SRVCTL, the PDB property must be set

- When using DBMS_SERVICE, the PDB property will automatically be set to the current container

- Stopping the Service stops the Service but not the PDB

- When a PDB is unplugged, its service(s) are not removed.

Creating Services

- When Oracle Restart is configured:

```
srvctl add service -db CDB1 -pdb PDB1 -service SALPROD
srvctl start service -db CDB1 -service CDBSRV
srvctl status service -db CDB1
lsnrctl status listener
```

- Creating a service using DBMS_SERVICE

```
ALTER SESSION SET CONTAINER=PDB1;
DBMS_SERVICE.CREATE_SERVICE(SERVICE_NAME=> 'SALPROD',
            NETWORK_NAME=> 'SALPROD.localdomain');
```

Obtaining Information about the Services from SQL

```
SELECT CON_ID, SERVICE_ID, NAME,  NETWORK_NAME, PDB
FROM V$SERVICES
WHERE PDB IN ('SALPROD') ORDER BY 1,2;
```

Dedicating a Listener to a PDB

1. Create a new listener

```
LISTENER_PDB1 = (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS= (PROTOCOL=TCP)(HOST=srv1)(PORT= 1531))
    ))
```

2. Add a net alias to the tnsnames.ora file

```
LISTENER_PDB1 =
    (ADDRESS = (PROTOCOL = TCP)(HOST = srv1)(PORT =
1531))
```

Dedicating a Listener to a PDB   (cont)

3. Set LISTENER_NETWORKS in the PDB:

```
ALTER SESSION SET CONTAINER=PDB1;
ALTER SYSTEM SET
LISTENER_NETWORKS='((NAME=PDB_NETWORK1)
        (LOCAL_LISTENER=LISTENER_PDB1))' SCOPE=BOTH;
```

4. Verify that the service is registered:

```
# lsnrctl status listener_pdb
```

5. Connect through the listener:

```
SQL>connect usr/psswd@//srv1.localdomain:1531/pdb1
```

Objectives

In this lecture, you should have learnt how to:

- Manage services in a multitenant container

- Dedicate a Listener to a PDB