T1: Steps to Follow for HR Account Unlock in Oracle 19c
[If You Fail to Execute T1, Follow T3]

1. Connect to freshly installed Oracle 19c database as sys account which is a superuser:

CMD>SQLPLUS
USERNAME: SYS AS SYSDBA
PASSWORD: #######

2. After login, you can view some information about database (also known as containers in Oracle 19c):
--show current database:
SQL>SHOW CON_ID

--information about all databases
SQL>SELECT NAME, CON_ID, DBID, CON_UID, GUID FROM V$CONTAINERS ORDER BY CON_ID;

--information about pluggable databases
SQL>SELECT PDB_ID, PDB_NAME, STATUS FROM DBA_PDBS ORDER BY PDB_ID;

--show open status of pluggable databases
SQL>SELECT NAME, OPEN_MODE, RESTRICTED, OPEN_TIME FROM V$PDBS;

3. The default database is 'cdb$root' when you log in as 'sys'. The HR account is created in another database named 'orclpdb'. To unlock HR, you need to switch your current database to the pluggable database 'orclpdb':

SQL>ALTER SESSION SET CONTAINER=ORCLPDB;

[
  If the above command generates an error like "database not open", then issue the following two commands to open it and save the open state
  3.a. Change database status to open mode

  ALTER PLUGGABLE DATABASE ORCLPDB OPEN;

  3b. Save database state of pluggable db;

  ALTER PLUGGABLE DATABASE SAVE STATE;
]

4. Now your database is changed to 'orclpdb' which contains an HR user account. You can now unlock HR user account:

SQL>ALTER USER HR IDENTIFIED BY HR ACCOUNT UNLOCK;

Follow either 5a (lengthy setup but easy for repeated connection) or 5b (shortcut basic connection)

5a. Even after you have unlocked the HR account, you cannot connect as 'HR'. This is because the pluggable database 'orclpdb' is not recognized by oracle service externally and external connection to this pluggable database is not enabled by default. HR account you have unlocked is inside the pluggable database (see step 2). For this to work, you need to create a service name in the tnsnames.ora file to allow external connection to the pluggable database 'orclpdb'.

Location of the tnsnames.ora file in windows (it depends on the Oracle Home folder you have chosen during installation, e.g., below
C:\WINDOWS.X64_193000_db_home\network\admin

Open the tnsnames.ora file and add the following lines at the end of the file and save the file.

```
ORCLPDB =
 (DESCRIPTION =
  (ADDRESS_LIST =
   (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1521))
  )
  (CONNECT_DATA =
   (SERVICE_NAME = orclpdb)
  )
 )
```

5b. You can directly login to 'orclpdb' using the basic syntax below:

CMD>SQLPLUS
USERNAME: hr@'localhost:1521/orclpdb'
PASSWORD: ##

Note the single quotes (') which must be present. Explanation of the basic syntax:
- localhost: Name/IP of the database server (IP can be used for remote connection)
- 1521: Port name of the database server
- orclpdb: Name of the database you are connecting to

Add TNS ORCLPDB like below-highlighted block

```
ORCL =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = orcl)
    )
  )
ORCLPDB =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = orclpdb)
    )
  )
```

Open CMD as Administrator and execute below command

```
C:\>lsnrctl reload
```

6. [**Required only if you chose 5a above**] Finally, test HR login to the pluggable database 'orclpdb:

CMD>sqlplus
username: hr@orclpdb
password: hr

T2: Steps to follow for Recreating HR Schema (If You Have Deleted It) in Oracle 19c

1. Connect to freshly installed Oracle 19c database as sys account which is a superuser:

CMD>SQLPLUS
USERNAME: SYS AS SYSDBA
PASSWORD: #######

2. The default database is 'cdb$root' when you log in as 'sys'. The HR account is created in another database named 'orclpdb'. To unlock HR, you need to switch your current database to the pluggable database 'orclpdb':

SQL>ALTER SESSION SET CONTAINER=ORCLPDB;

3. Run the HR creation script

SQL>@?/demo/schema/human_resources/hr_main.sql

Enter parameters as below when asked:

specify password for HR as parameter 1:
Enter value for 1: hr

specify default tablespace for HR as parameter 2:
Enter value for 2: users

specify temporary tablespace for HR as parameter 3:
Enter value for 3: temp

specify log path as parameter 4:
Enter value for 4: @?/demo/schema/log/

4. Finally, test HR login to the pluggable database 'orclpdb:

CMD>sqlplus
username: hr@orclpdb
password: hr

T3: Easy Steps to Create HR Schema in Oracle 19c [If You Fail to Unlock the Existing HR Account in orclpdb]

1. Connect to freshly installed Oracle 19c database as sys account which is a superuser:

CMD>SQLPLUS
USERNAME: SYS AS SYSDBA
PASSWORD: #######

2. To run privileged script to create an HR account in 'cdb$root' database, you need to enable permission first:

SQL>ALTER SESSION SET "_ORACLE_SCRIPT"=true;

2. Run the HR creation script [as you are now connected to cbd$root database, this HR account is created in the cbd$root database, which is not recommended actually. If you do this, you does not require modifying the tnsnames.ora file as you will not connect to the 'orclpdb' database]

SQL>@?/demo/schema/human_resources/hr_main.sql

Enter parameters as below when asked:

specify password for HR as parameter 1:
Enter value for 1: hr

specify default tablespace for HR as parameter 2:
Enter value for 2: users

specify temporary tablespace for HR as parameter 3:
Enter value for 3: temp

specify log path as parameter 4:
Enter value for 4: @?/demo/schema/log/

2. Finally, test HR login to the database 'cbd$root':

CMD>sqlplus
username: hr
password: hr