

# **Using Password File Authentication**

**By Ahmed Baraka**

# Objectives

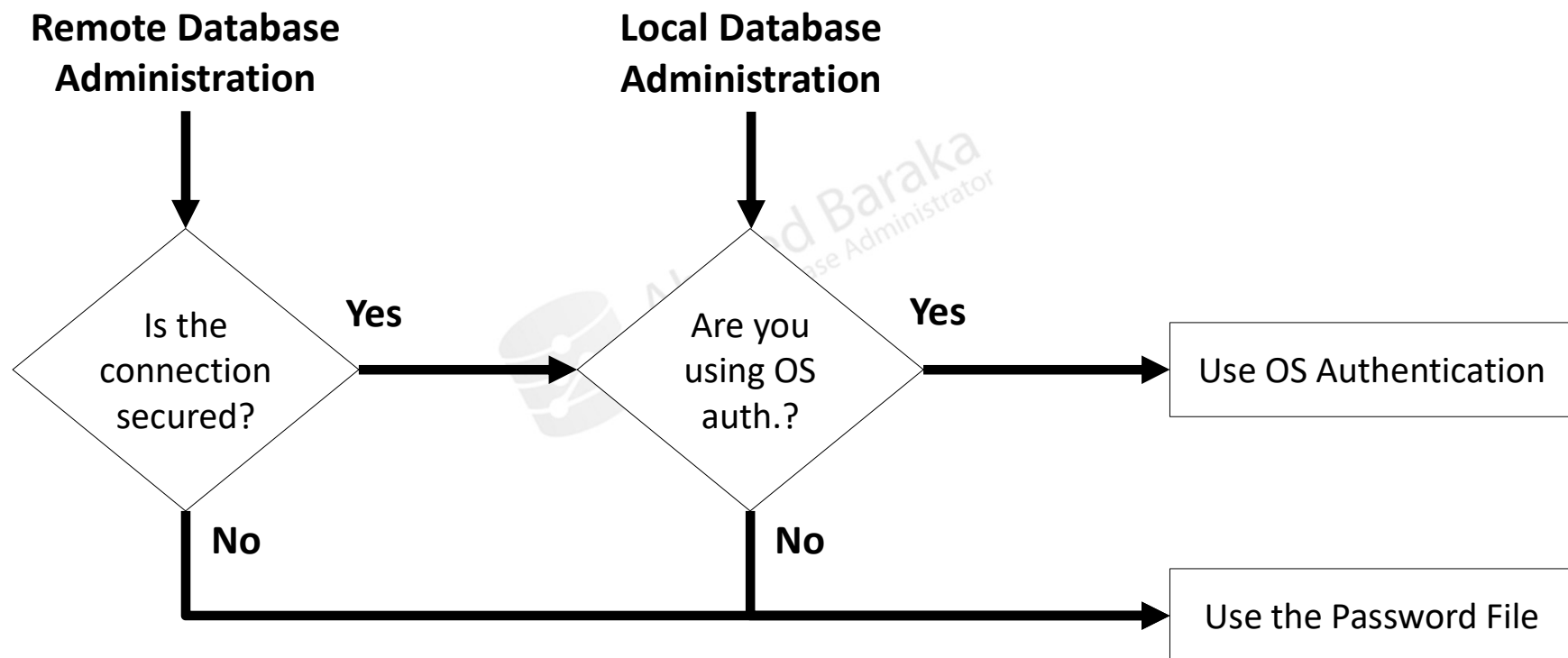
---

In this lecture, you will learn how to perform the following:

- Describe password file authentication
- Create a password file
- Set **REMOTE\_LOGIN\_PASSWORDFILE** parameter
- Understand how OS Authentication supersedes password file authentication
- Synchronize administrator passwords with the data dictionary

# Database Administrator Authentication Flowchart

---



# About Password File Authentication

---

- Password file is used to save the administrative account passwords
- **sys** password is saved only in the password file. The other administrative account passwords are saved in both the password file and the data dictionary
- Password file location and format:

```
(Linux) $ORACLE_HOME/dbs/orapw<$ORACLE_SID>  
(Windows) $ORACLE_HOME/database/PWD<$ORACLE_SID>.ora
```

# Creating Password File

---

- Use `orapwd` utility:

```
orapwd FILE=<filename> [FORCE={y|n}] [password=<my-password>]  
[FORMAT={12.2|12}]
```

- no spaces permitted around the equal-to (=) character.

- Example of creating a password file:

```
orapwd FILE='/u01/app/oracle/product/19.0.0/db_1/dbs/orapworcl'
```

- To know the full name of the password file being used:

```
SELECT FILE_NAME FROM V$PASSWORDFILE_INFO;
```

- To list the users whose passwords are saved in the password file:

```
SELECT * FROM V$PWFILERS;
```

# Setting REMOTE\_LOGIN\_PASSWORDFILE

---

- **REMOTE\_LOGIN\_PASSWORDFILE** acceptable values:

Value	Description
<b>EXCLUSIVE</b>	(default) Only one database can use it
<b>NONE</b>	Disables using password file for authentication. As a result, no privileged connections are allowed over nonsecure connections.
<b>SHARED</b>	Password file can be used by multiple databases or multiple RAC instances. Shared password files are read-only, i.e. you cannot change the SYS password or add users to the password file.

# The Impact of OS Authentication Superseding Password File Authentication

---

- An OS user that belongs to one or more administrative groups can connect to the database even if it provides a wrong password:

```
[oracle@srv1 oracle]$ sqlplus sys/test as sysdba
Connected to: Oracle Database 19c Enterprise Edition Release ..
SQL>
```

- The following connect attempt fails because this attempts uses non-secure connection and therefore the database must use the password file authentication:

```
[oracle@srv1 oracle]$ sqlplus sys/test@oradb as sysdba

ERROR:
ORA-01017: invalid username/password; logon denied
```

# Synchronizing Administrator Passwords in the Data Dictionary with the Password File

---

- This procedure is needed when the password file is lost
1. Create a new password file
  2. Retrieve the administrator users and their granted administrative privileges

```
SELECT * FROM V$PWFFILE_USERS;
```

3. Revoke and then re-grant the administrative privileges to the users

```
REVOKE SYSBACKUP FROM sysuser1;  
GRANT SYSBACKUP TO sysuser1;
```

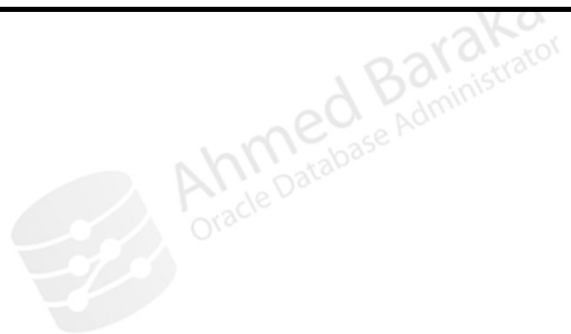


# Security Caution

---

- Secure the access to the password file.

```
[oracle@srv1 dbs]$ ls -al orapworadb  
-rw-r-----. 1 oracle oinstall 2560 Dec 24 11:45 orapworadb
```



# Summary

---

In this lecture, you should have learnt how to perform the following:

- Describe password file authentication
- Create a password file
- Set **REMOTE\_LOGIN\_PASSWORDFILE** parameter
- Understand how OS Authentication supersedes password file authentication
- Synchronize administrator passwords with the data dictionary