Oracle database is a relational database management system introduced by Oracle Corporation. It is a widely used database management system used in enterprise environments to manage and process data across wide and local area networks. The Oracle database has its own network component to allow communications across networks.

As a database administrator you have been asked to install Oracle database in the windows environment, provide user administration and security with the support of PDB management

Deadline for the submissions and evaluations are given below.

Report Submission	**Evaluation (**viva)
05.12.2023	Submit a video clip along with the report. No viva will be taken.

Follow the guidelines and perform the assignment on or before the 05th of December 2023.

Assignment contribution to final grade – 30%

Installing Oracle 12c on Windows and provide user administration and security– Guidelines

- Installing and configuration of oracle 12C could be performed through a graphical interface. Therefore, it is recommended to install Windows 10. Make sure that server has at least 2GB of Ram and 30GB of available disk space.
- If you already created the Orcale 12C server for lab activities **please ignore the "A: installation steps**" given below, you can use the same setup for the assignment. You will be getting 5/30 marks for the installation report you have already submitted to the courseweb
- While you are following each step, you should **take screenshots of your work and create a report**. Cover sheet for the report is given in courseweb.
- Upload your report to the given link in courseweb on or before **05th of December 2023.**
- Create a short video clip (5 minutes max) covering the outputs obtained and upload it to the designated shared location."

A: Installation steps

1. *Create a virtual machine and install Windows 10 in the Azure portal provided for the SLIIT students*
2. *Install Oracle 12C in the virtual machine using interactive mode (Refer the screen shots taken at the lab). Following environmental variables and database basic configuration parameters need to be used while installing. You may use the username and password given in the lab sheets*
3. *Set a password for SYS and SYSTEM users in password management at the end of the installation.*
4. *Login to EM express using https://localhost:5500/em*
5. *Assign port number 5501 for **container DB** and 5502 for **Pluggable DB** by login to the database using the SYSDBA account.*

B: Create a PDB by using Database Configuration Assistant (DBCA)

1. Log in to Oracle server using sqlplus (command prompt)
2. Run DBCA utility provided by Oracle to create a new pluggable database.

   Name of the new PDB: your IT number (Ex: IT20301040)

C: Provide user administration and security. (Use SQLPLUS command prompt to perform following activities. Refrain using EMexpress or SQL Developer to perform following activities)

Alter the session and set container into newly created pluggable database before perform following steps.

1. Create profile

Features	
Profile name	Accountant
SESSIONS_PER_USER	UNLIMITED
CPU_PER_SESSION	UNLIMITED
CPU_PER_CALL	3000
CONNECT_TIME	40
LOGICAL_READS_PER_SESSION	DEFAULT
LOGICAL_READS_PER_CALL	1000
PRIVATE_SGA	25K
COMPOSITE_LIMIT	5000000
FAILED_LOGIN_ATTEMPTS	3

PASSWORD_LIFE_TIME	180
PASSWORD_REUSE_TIME	30
PASSWORD_REUSE_MAX	7
PASSWORD_LOCK_TIME	1/24
PASSWORD_GRACE_TIME	7
PASSWORD_VERIFY_FUNCTION	NULL

. 2. Create default table space

Features	
Table space name	*yourFirstName*TS *(ex: MichelTS)*
Data file	*yourFirstName*_perm.dat *(ex:Michel_perm.dat)*
Size	100m
Reusable	Yes
Auto-extend	Yes (When more space is required, 10M extents will automatically be added until 200MB is reached

3. Create temporary table space

Features	
Temp table space n	*yourFirstName*TEMP *(ex: MichelTEMP)*
Data file	*yourFirstName*_temp.dbf
Size	10m
Auto-extend	Yes

4. Create role

Features	
Role name	Accountant
Privileges	grant connect, resource, dba
	grant create session
	grant create table, view, procedure, session, trigger, synonym

5. Create user

Features	
User name	*yourFirstName (ex: Thomas)*
Password	Any password you wish
Default table space	*yourFirstName*TS
Temporary tables pace	*yourFirstName*TEMP
Quota	50m on the default table space (*yourFirstName*TS)
Profile	Accountant
Privileges	Assign user to **Accountant** role

6. Connect to user account that you have created in step 5 (Provide appropriate privileges when needed) Hint : Use appropriate connect string in the command prompt

D: Managing Schema Objects (Use SQL developer to perform below operations)

1. Create Database connection in SQL developer. (Use the newly created pluggable DB name as the service name.
2. Check whether the user created in part C is available in the users list.
3. Create a new table to save the "OnlineRetail" dataset given in the courseweb. Create the new table under the user you have created in Part C above.
    a. Table/ schema name: OnlineRetail
    b. Column names: refer to the column names available in the data sheet
    c. Data types: Identify the data types referring the data sheet
4. Load the OnlineRetail data into the newly created table.
5. Create an index to the table based on the "Price" column in the data sheet.
    a. Index name: Price_IX

E: Submissions

1. After completing all the activities mentioned above, create a video clip by recording your screen. Ensure that the video clearly displays the outputs of each step.

2. Utilize the commands employed in Practical 5, as well as the steps outlined in Practical 11, to showcase the outputs in your video clip.

3. Upload the report containing the screenshots to the course website and the video clip to the designated shared location provided below.

    https://mysliit-my.sharepoint.com/:f:/g/personal/narmada_g_sliit_lk/Ev7jGNzoP7FHohV0-kveS-4B00OecwomeA917SZb1A4BfQ?e=ACpzLd

4. Rename the video clip and report using your student ID number.