Database Administration and Management – BITF21 (Morning)

       # Quiz 1

---

1. **Write command to add a member to each group1 and group2.** **(10)**

```
ALTER DATABASE
ADD LOGFILE MEMBER
'$HOME/ORADATA/u04/log1c.rdo' TO GROUP 1,
'$HOME/ORADATA/u04/log2c.rdo' TO GROUP 2;
```

2. **Draw the DB storage hierarchy.** **(10)**

Database > Tablespace > Segment > Extent > Block

3. **Write command to create locally managed tablespace.** **(10)**

```
CREATE TABLESPACE userdata
DATAFILE '/u01/oradata/userdata01.dbf'
SIZE 500M EXTENT MANAGEMENT LOCAL UNIFORM SIZE 128K;
```

4. **Define a segment. And give only names for the types of segment.** **(10)**

A segment is a logical allocation of space within a tablespace. It can be further divided into extents.

- Data Segment
- Index Segment
- Temporary Segment
- Rollback Segment
- Undo Segment

5. **Each group of the Redo log file contains only one member. How can I drop the only member of G1? Write commands.** **(10)**

The minimum number of members in Redo log file group is 1. So you first need to add another redo log file to the group and then remove the older one.

To add:
```
ALTER DATABASE ADD LOGFILE MEMBER
'$HOME/ORADATA/u04/log2c.rdo' TO GROUP 1;
```
To delete:
```
ALTER DATABASE DROP LOGFILE MEMBER
'$HOME/ORADATA/u04/log1c.rdo';
```

6. **Add data file to undo tablespace 'undotbs'.** **(10)**

```
ALTER TABLESPACE user_data
ADD DATAFILE '/u01/oradata/userdata03.dbf'
SIZE 200M;
```

7. **Why is undo quota used?** **(10)**

Undo quota is used to limit the amount of undo space that a user or group of users can consume. This helps to prevent excessive undo usage, which can lead to performance problems and database crashes. Undo quota is typically set by the database administrator.

| **8.** | **Database has two log groups G1 and G2. I want to drop G2. Write the command to perform the task?** | **(10)** |

The minimum number of log groups is2. So you first need to add another log group and then remove G2.
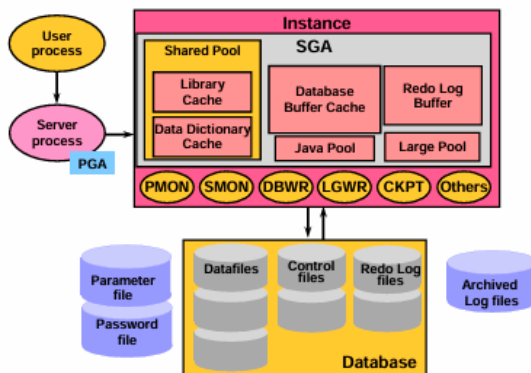
To add:
```
ALTER DATABASE ADD LOGFILE GROUP 3
('$HOME/ORADATA/u01/log3a.rdo',
 '$HOME/ORADATA/u02/log3b.rdo')
 SIZE 1M;
```
To remove:
```
ALTER DATABASE DROP LOGFILE GROUP 3;
```

| **9.** | **Explain Database server with example.** | **(10)** |

Overview of Primary Components

| **10** | **Explain working of redo log files with a diagram.** | **(10)** |

Redo log files are essential for database recovery. They record all changes sequentially made to the database. The Log Writer (LGWR) process writes these changes to the redo log buffer and then to the redo log files on disk. Checkpoints ensure data consistency by writing the redo log buffer to data files. In case of a system failure, the database can be recovered by replaying the redo log entries. Archived redo log files are used for media recovery in case of data file corruption.

Structure of Redo Log Files