



Introduction to Database Systems and Processing

Department of Electrical Engineering and Computer Science

Cleveland State University

CIS530 Hands-on Group Project

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PROJECT BREAKDOWN

Step One:

- Install Oracle 19c
- Create database
- Create USER ID (first initial and last name) – with default Tablespace (logical)
- Grant required privileges and roles

Step Two:

- Collect business requirements – meet customers
- Plan and design your application
- Develop ER diagram / data-model – logical view

Step Three:

- Start coding your application (create tables, PK, FK and other constraints)
- Create tables (five – minimum)
- Create relations
- Develop constraints (PK, FK, Composite Key, Not Null, Sequences, Index etc.)
- Insert data into tables (15 rows – minimum)

Step Four:

- Develop SQL queries
- Advanced SQL queries

Step Five:

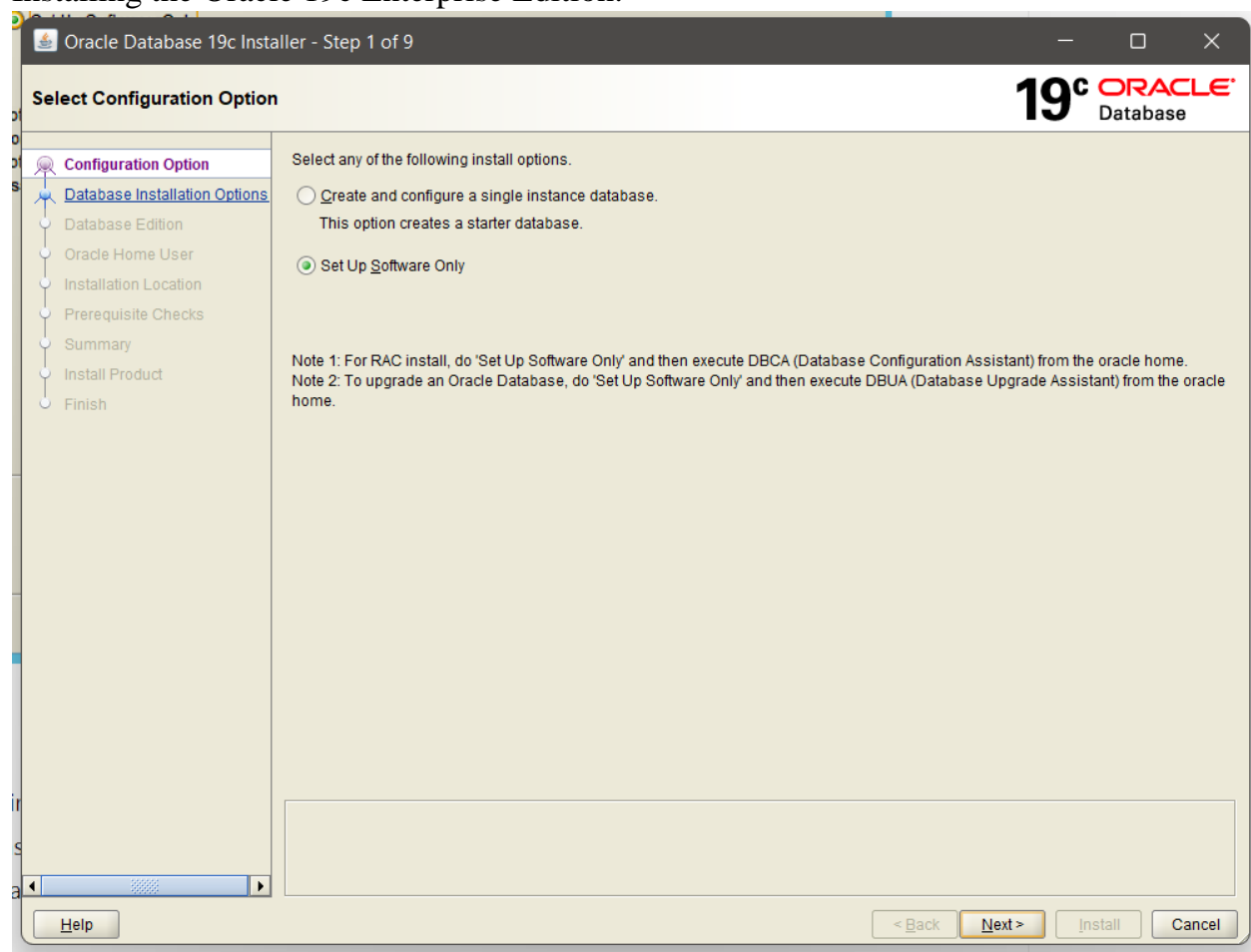
- Develop report
- Analyze data

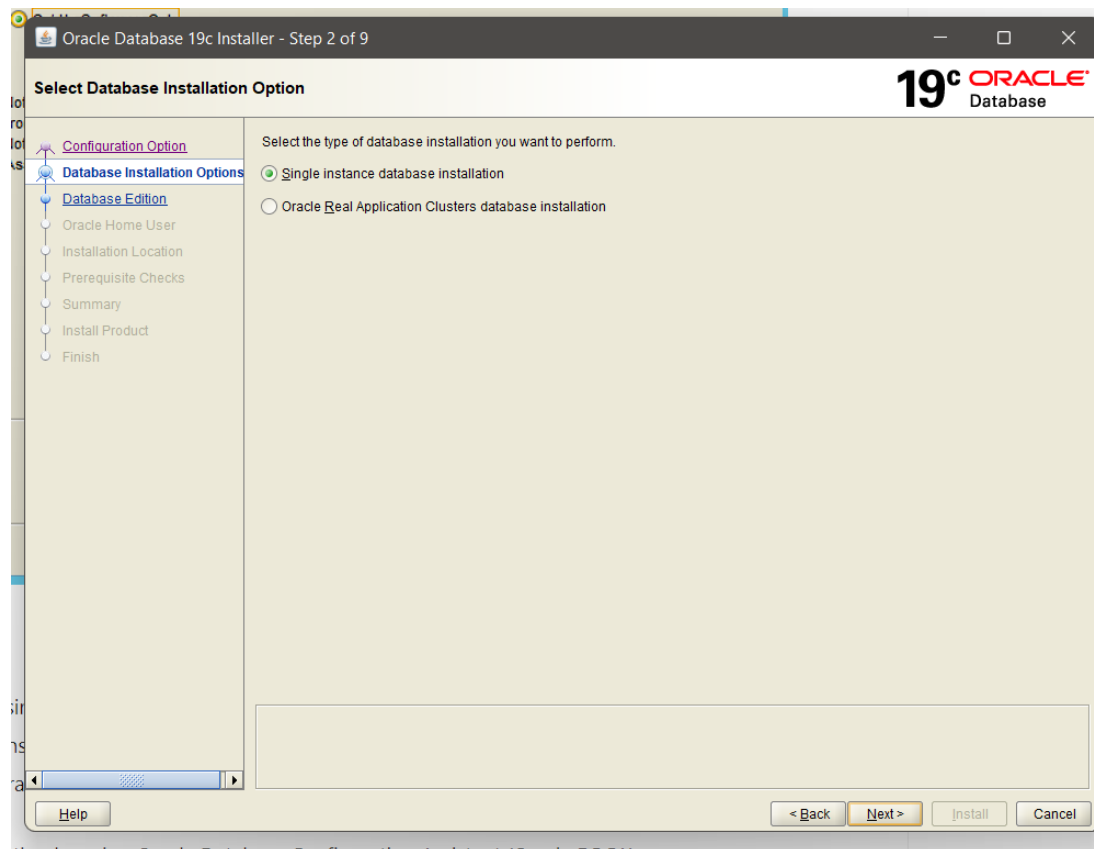
STEP ONE:

- Install Oracle 19c
- Create database
- Create USER ID (first initial and last name) – with default Tablespace (logical)
- Grant required privileges and roles

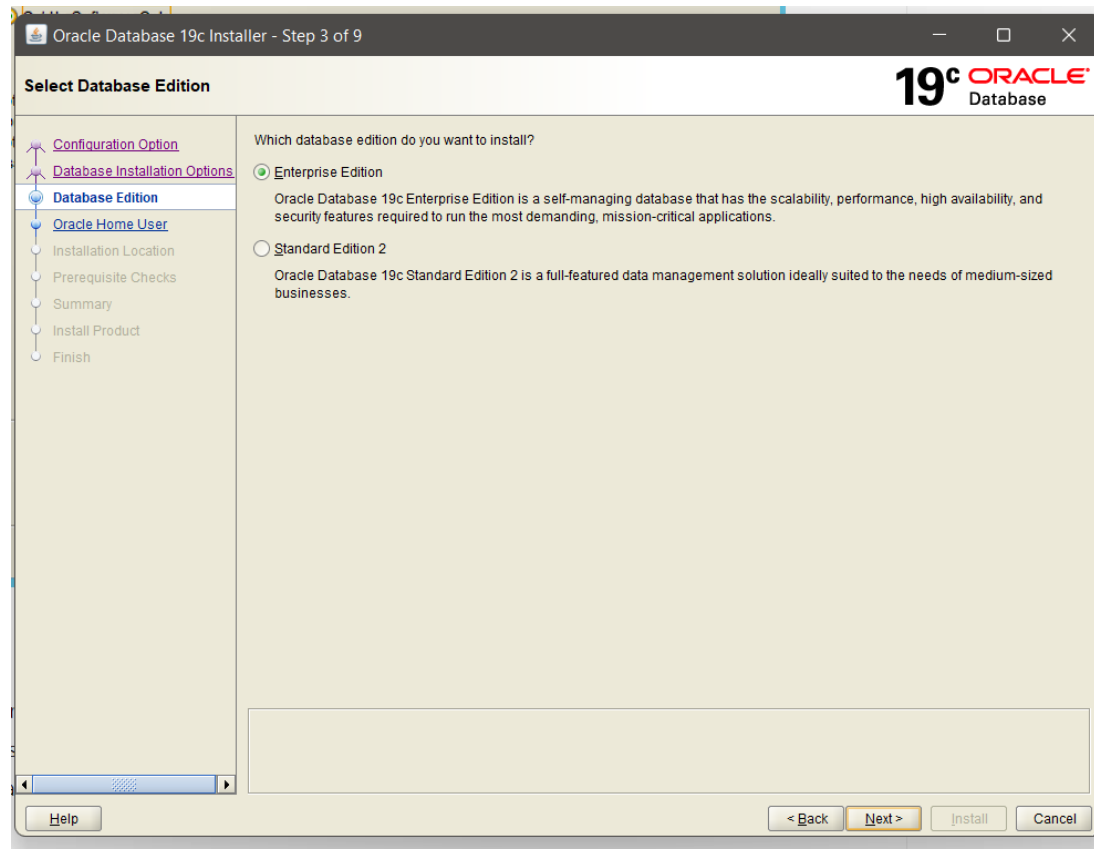
INSTALLATION:

Installing the Oracle 19c Enterprise Edition.

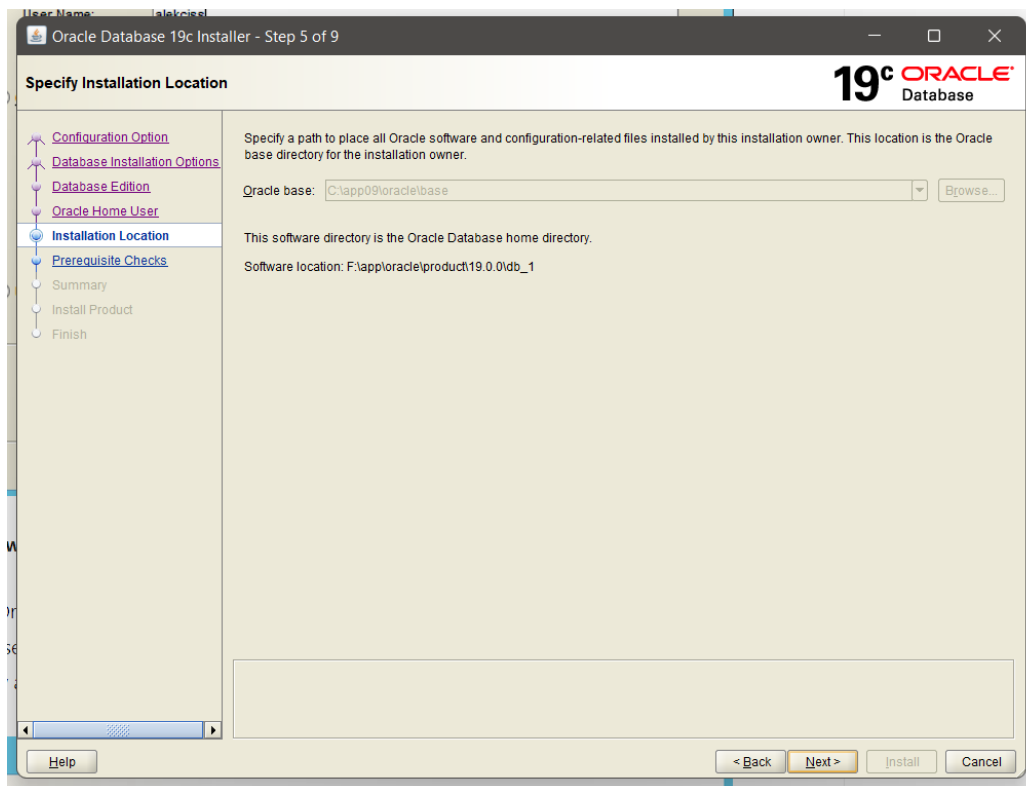
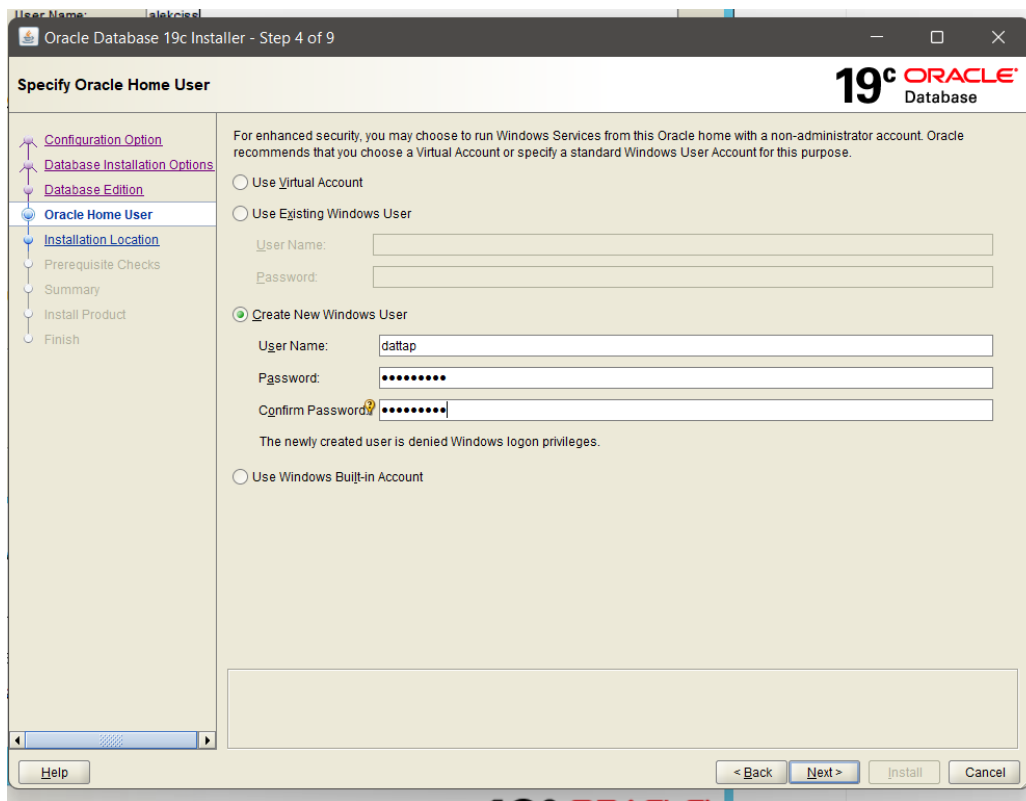


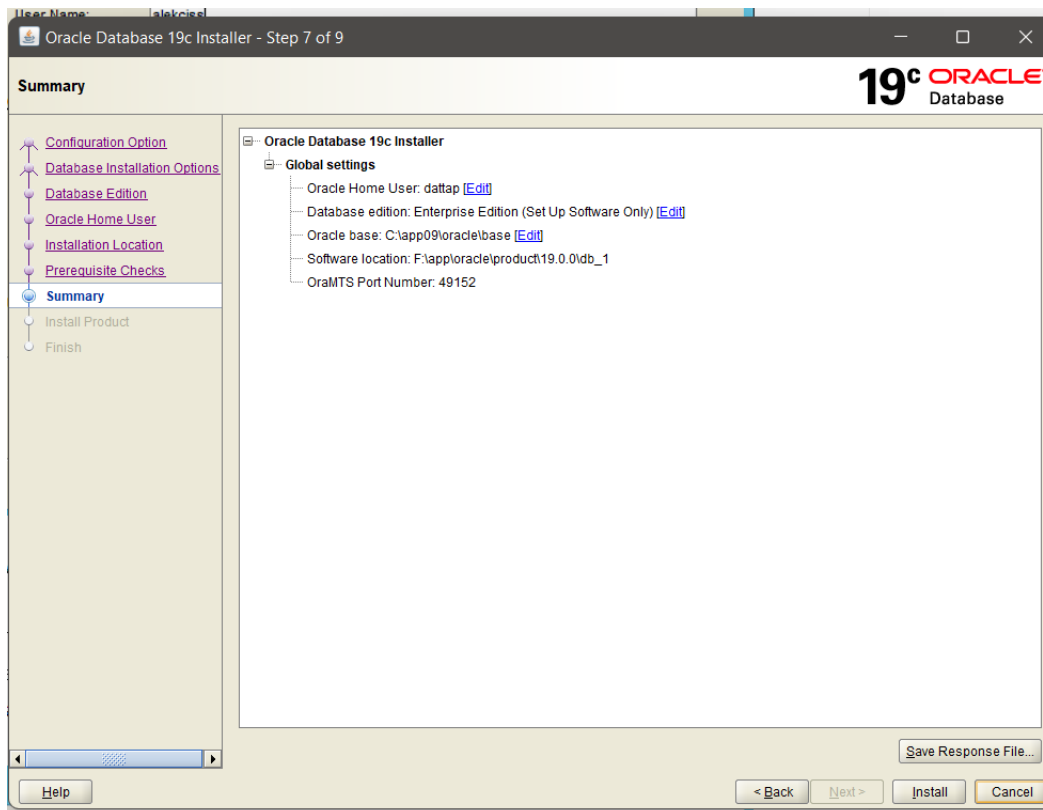
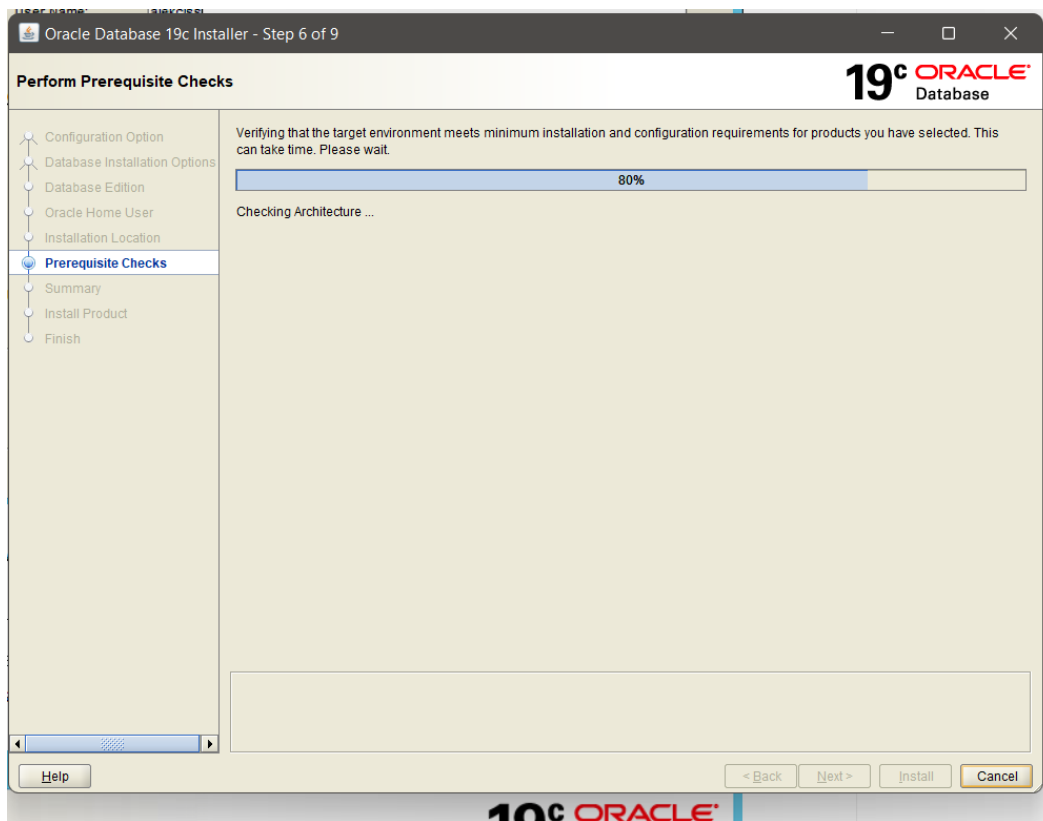


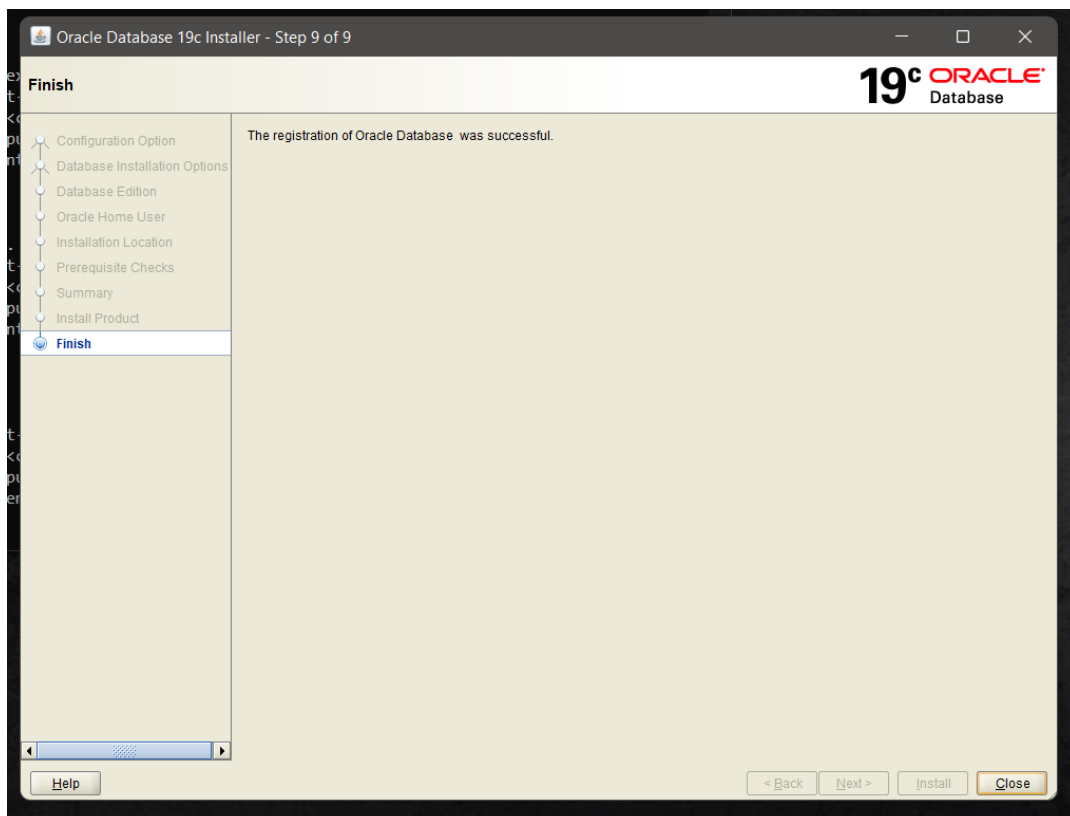
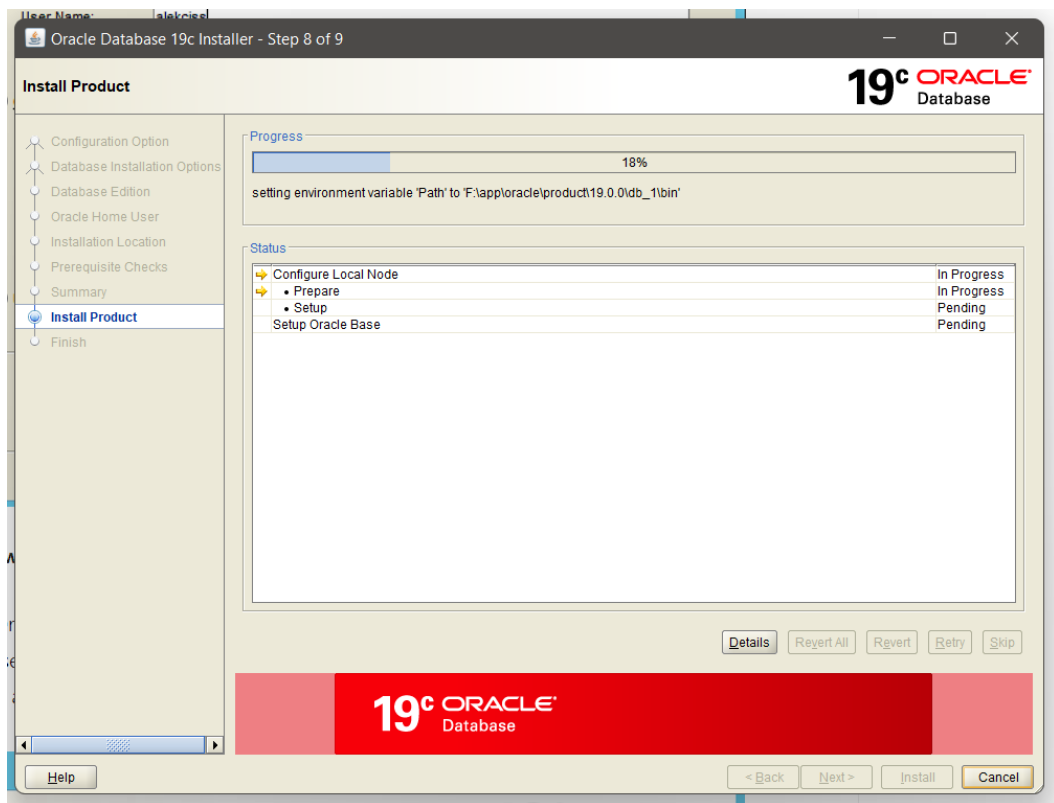
tion by using Oracle Database Configuration Assistant (Oracle DBCA)



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CREATING DATABASE:

USING DBCA TO CREATE A DATABASE

Database Configuration Assistant - Create a database - Step 1 of 14

Select Database Operation

19^c ORACLE Database

Select the operation that you want to perform.

- ☒ Create a database
- ☐ Configure an existing database
- ☐ Delete database
- ☐ Manage templates
- ☐ Manage Pluggable databases
- ☐ Oracle RAC database Instance management

Database Configuration Assistant - Create a database - Step 2 of 14

Select Database Creation Mode

19^c ORACLE Database

☐ Typical configuration

Global database name:

Storage type:

Database files location:

Fast Recovery Area (FRA):

Database character set:

Administrative password:

Confirm password:

Oracle home user password:

☒ Create as Container database

Pluggable database name:

☒ Advanced configuration

Database Configuration Assistant - Create a database - Step 3 of 14

19c ORACLE Database

Select Database Deployment Type

Database Operation
Creation Mode
Deployment Type
Database Identification
Storage Option
Fast Recovery Option
Database Options
Configuration Options
Management Options
User Credentials
Creation Option
Summary
Progress Page
Finish

Select the type of database you want to create.

Database type: Oracle Single Instance database

Configuration type: Admin Managed

Select a template for your database.

Templates that include datafiles contain pre-created databases. They allow you to create a new database quickly. Use templates without datafiles only when necessary, such as when you need to change attributes like block size that cannot be altered after database creation.

Template name	Include datafiles	Details
<input type="radio"/> Data Warehouse	Yes	View details
<input checked="" type="radio"/> General Purpose or Transaction Processing	Yes	View details
<input type="radio"/> Custom Database	No	View details

Template location: F:\app\oracle\product\19.0.0\db_1\assistants\dbc/templates Change...

Help
< Back
Next >
Finish
Cancel

Database Configuration Assistant - Create a database - Step 4 of 14

19c ORACLE Database

Specify Database Identification Details

Database Operation
Creation Mode
Deployment Type
Database Identification
Storage Option
Fast Recovery Option
Database Options
Configuration Options
Management Options
User Credentials
Creation Option
Summary
Progress Page
Finish

Provide a unique database identifier information. An Oracle database is uniquely identified by a Global database name, typically of the form "name.domain".

Global database name: projectdb

SID: projectdb

Service name:

☒ Create as Container database

A Container database can be used for consolidating multiple databases into a single database, and it enables database virtualization. A Container database (CDB) can have zero or more pluggable databases (PDB).

☒ Use Local Undo tablespace for PDBs

☐ Create an empty Container database

☒ Create a Container database with one or more PDBs

Number of PDBs: 1

PDB name: projectpdb

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Finish
Cancel

Database Configuration Assistant - Create 'projectdb' database - Step 5 of 14

19c ORACLE Database

Select Database Storage Option

- Database Operation
- Creation Mode
- Deployment Type
- Database Identification
- Storage Option**
- Fast Recovery Option
- Database Options
- Configuration Options
- Management Options
- User Credentials
- Creation Option
- Summary
- Progress Page
- Finish

☒ Use template file for database storage attributes
Storage type and location for database files will be picked up from the specified template (General Purpose or Transaction Processing).

☐ Use following for the database storage attributes
All the database files will be put at the specified location below. You can customize the name and location of each datafile in the subsequent screen.

Database files storage type: File System

Database files location: (ORACLE_BASE)\oradata\{DB_UNIQUE_NAME} [Browse...](#)

Oracle Managed files option will enable Oracle to automatically generate the names of the datafiles for simplified database management.

☐ Use Oracle-Managed Files (OMF) [Multiplex redo logs and control files...](#)

[File location variables...](#)

[Help](#) [Back](#) [Next >](#) [Finish](#) [Cancel](#)

Database Configuration Assistant - Create 'projectdb' database - Step 6 of 14

19c ORACLE Database

Select Fast Recovery Option

- Database Operation
- Creation Mode
- Deployment Type
- Database Identification
- Storage Option
- Fast Recovery Option**
- Network Configuration
- Configuration Options
- Management Options
- User Credentials
- Creation Option
- Summary
- Progress Page
- Finish

Choose the recovery options for the database.

☒ Specify Fast Recovery Area

Recovery files storage type: File System

Fast Recovery Area: (ORACLE_BASE)\fast_recovery_area\{DB_UNIQUE_NAME} [Browse...](#)

Fast Recovery Area size: 12732 MB

☒ Enable archiving [Edit archive mode parameters...](#)

[Help](#) [Back](#) [Next >](#) [Finish](#) [Cancel](#)

Database Configuration Assistant - Create 'projectdb' database - Step 7 of 14

19c ORACLE Database

Specify Network Configuration Details

Database Operation
Creation Mode
Deployment Type
Database Identification
Storage Option
Fast Recovery Option
Network Configuration
Configuration Options
Management Options
User Credentials
Creation Option
Summary
Progress Page
Finish

Listener selection

Listeners from current Oracle home are listed below. Specify the listener name and port to create a new listener in current Oracle home.

Name	Port	Oracle home	Status
------	------	-------------	--------

☐ **Create a new listener**

Listener name:

Listener port:

Oracle home: F:\app\oracle\product\19.0.0\ldb_1

Database Configuration Assistant - Create 'projectdb' database - Step 8 of 15

19c ORACLE Database

Select Oracle Data Vault Config Option

Database Operation
Creation Mode
Deployment Type
Database Identification
Storage Option
Fast Recovery Option
Network Configuration
Data Vault Option
Configuration Options
Management Options
User Credentials
Creation Option
Summary
Progress Page
Finish

☐ **Configure Oracle Database Vault**

Database Vault owner:

Password: Confirm password:

☐ **Create a separate account manager**

Account manager:

Password: Confirm password:

☐ **Configure Oracle Label Security**

☐ Configure Oracle Label Security with OJD

Database Configuration Assistant - Create 'projectdb' database - Step 9 of 15

Specify Configuration Options

19^c ORACLE Database

Database Operation
Creation Mode
Deployment Type
Database Identification
Storage Option
Fast Recovery Option
Network Configuration
Data Vault Option
Configuration Options
Management Options
User Credentials
Creation Option
Summary
Progress Page
Finish

Memory | Sizing | Character sets | Connection mode | Sample schemas

☒ Use Automatic Shared Memory Management

SGA size: 3421 MB
PGA Size: 1141 MB

☐ Use Manual Shared Memory Management

Shared pool size: 0 MB
Buffer cache size: 0 MB
Java pool size: 0 MB
Large pool size: 0 MB
PGA size: 0 MB

Total memory for database 0 MB

☐ Use Automatic Memory Management

Memory target: 6288 MB

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Management Option

Database Configuration Assistant - Create 'projectdb' database - Step 10 of 15

Specify Management Options

19^c ORACLE Database

Database Operation
Creation Mode
Deployment Type
Database Identification
Storage Option
Fast Recovery Option
Network Configuration
Data Vault Option
Configuration Options
Management Options
User Credentials
Creation Option
Summary
Progress Page
Finish

Specify the management options for the database.

☐ **Configure Enterprise Manager (EM) database express**

EM database express port: 5500

☐ Configure EM database express port as global port

☐ **Register with Enterprise Manager (EM) cloud control**

OMS host:
OMS port:
EM admin username:
EM admin password:

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Database Configuration Assistant - Create 'projectdb' database - Step 11 of 15

Specify Database User Credentials

19c ORACLE Database

You must specify passwords for the following user accounts in the new database for security reasons.

☐ Use different administrative passwords

	Password	Confirm password
SYS	<input type="password"/>	<input type="password"/>
SYSTEM	<input type="password"/>	<input type="password"/>
PDBADMIN	<input type="password"/>	<input type="password"/>

☒ Use the same administrative password for all accounts

Password: Confirm password:

The database Oracle home is installed with a Oracle home user (datap). Windows service for the database will be configured to run as Oracle home user account.

Oracle home user password:

Messages:

⚠ Password: [DBT-06208] The 'ADMIN' password entered does not conform to the Oracle recommended standards.

Help < Back Next > Finish Cancel

Database Configuration Assistant - Create 'projectdb' database - Step 12 of 15

Select Database Creation Option

19c ORACLE Database

Select the database creation options.

☒ Create database

Specify the SQL scripts you want to run after the database is created. The scripts are run in the order listed below.

Post DB creation scripts: Browse...

☐ Save as a database template

Template name:

Template location: Browse...

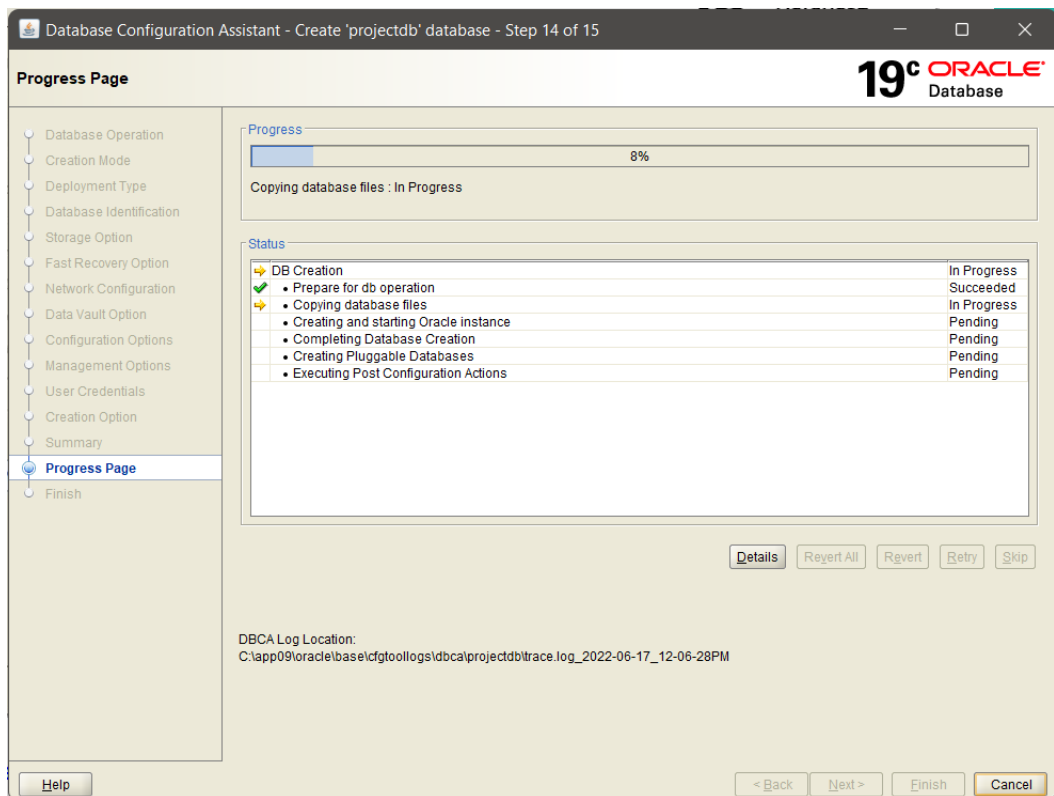
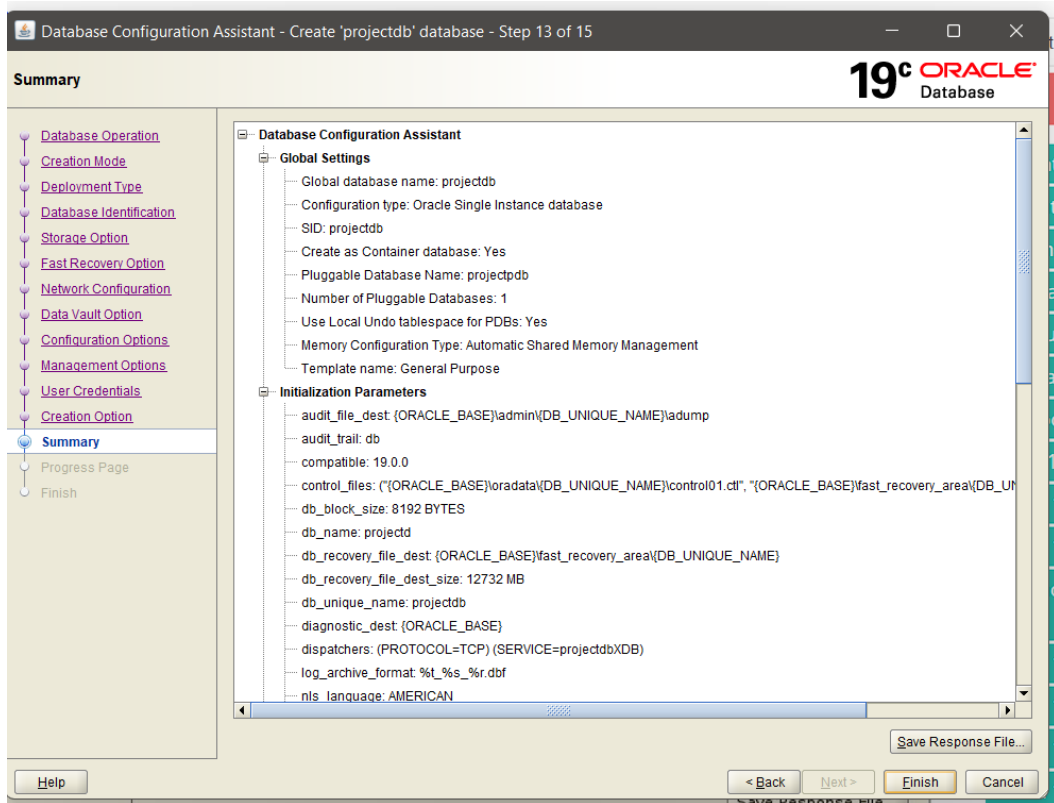
Description:

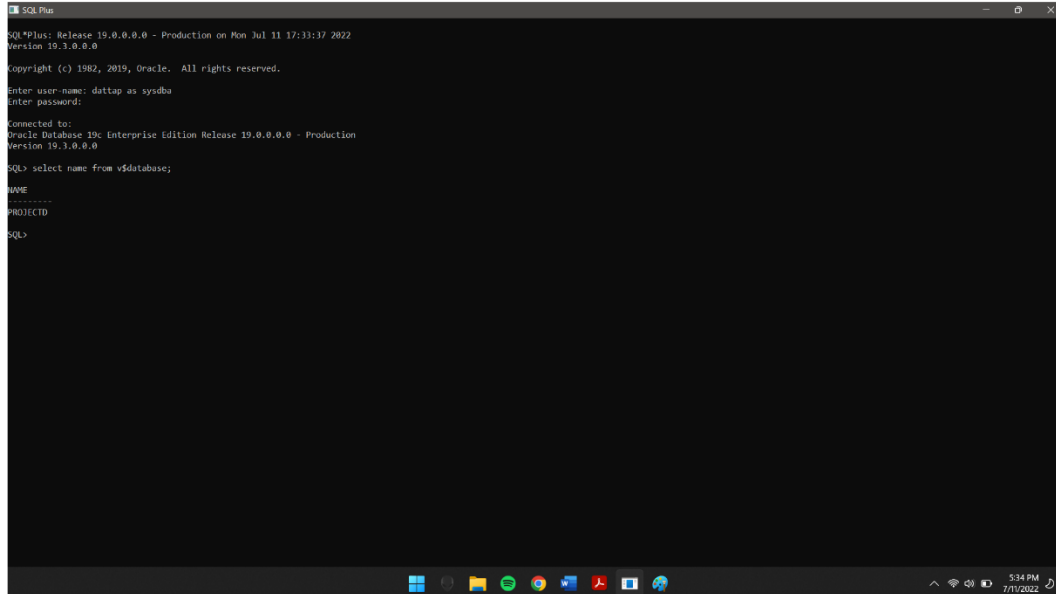
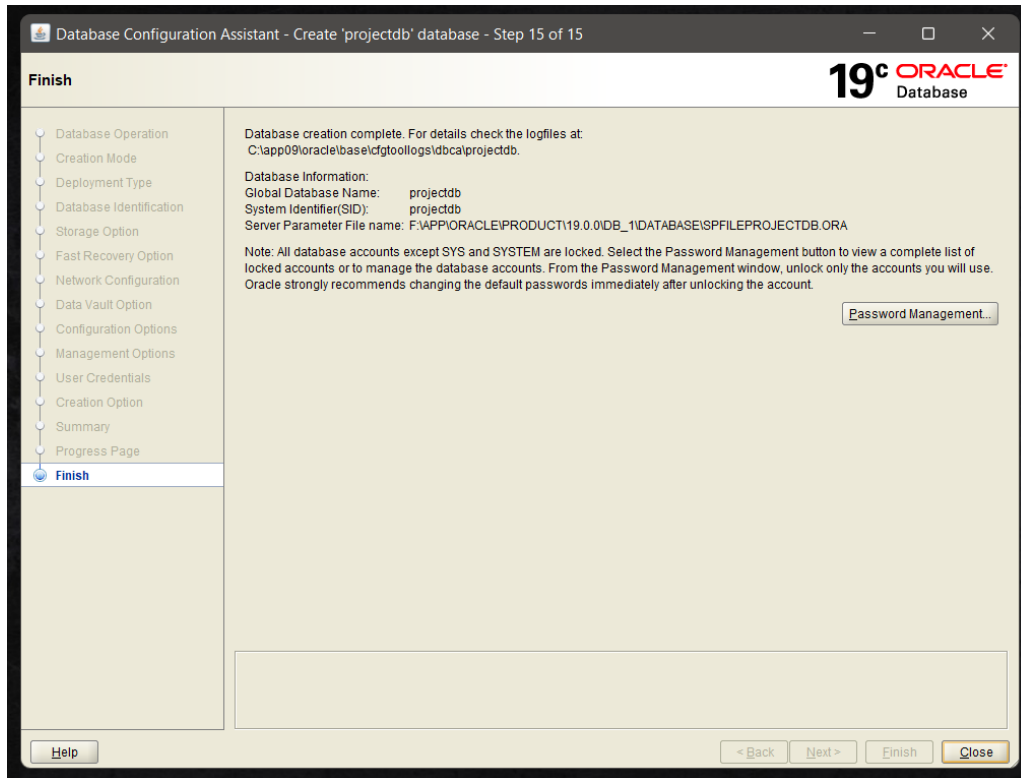
☐ Generate database creation scripts

Destination directory: Browse...

Following advanced configuration options can be used to configure initialization parameters and customize database storage locations.

Help < Back Next > Finish Cancel





CREATING A NEW USER AND GRANTING ALL PRIVILEGES TO THAT USER

```
SQL Plus
SP2-0734: unknown command beginning "default ta..." - rest of line ignored.
SQL> grant dba to dpillalamarri
2
SQL> grant dba to dpillalamarri;
grant dba to dpillalamarri
*
ERROR at line 1:
ORA-01917: user or role 'DPILLALAMARRI' does not exist

SQL> alter session set "_ORACLE_SCRIPT"=true;

Session altered.

SQL> grant dba to dpillalamarri;
grant dba to dpillalamarri
*
ERROR at line 1:
ORA-01917: user or role 'DPILLALAMARRI' does not exist

SQL> create user dpillalamarri identified by rohitp123;

User created.

SQL> grant dba to dpillalamarri;

Grant succeeded.

SQL>
```


STEP 2:

- Collect business requirements – meet customers
- Plan and design your application
- Develop ER diagram / data-model – logical view

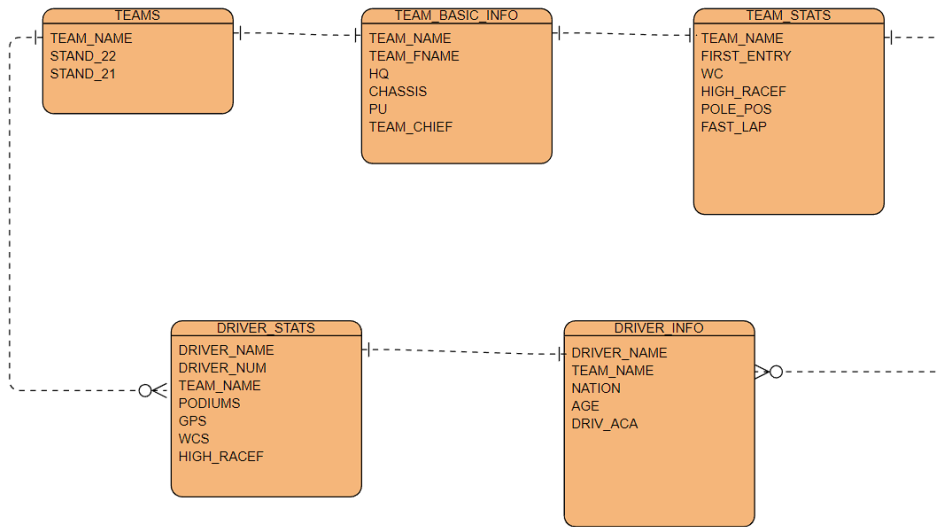
The project which I am doing is based on the sport Formula One.

I have created a database in which I have gathered all the required information from the sport like the team names, team's history in the sport, the current car details, Team chiefs, and the drivers, their backgrounds like the academy in which they graduated, their stats, and their personal data like Nationality, date of birth. I have taken the data from Formula one sport's official website.

Now based on the requirements and gathered data, I have created five tables:

Teams, Team_Stats, Team_Basic_Info, Driver_Stats, Driver_info.

ER DIAGRAM:



DRIVER_NAME = DRIVER NAME

STAND_22 = STANDINGS IN 2022

STAND_21 = STANDINGS IN 2021

TEAM_FNAME = TEAM FULL NAME

HQ = HEADQUARTERS

PU = POWER UNIT OF THE TEAM'S CAR

TEAM_CHIEF = HEAD OF THE TEAM

TEAM_ENTRY = TEAM'S FIRST OFFICIAL ENTRY IN THE SPORT(YEAR)

WC = NUMBER OF WORLD CHAMPIONSHIPS

HIGH_RACEF = HIGHEST RACE FINISH BY THE TEAM

POLE_POS = NUMBER OF POLE POSITIONS BY THE TEAM

FAST_LAP = NUMBER OF FASTEST LAPS AWARDS

DRIVER_NAME = THE NAME OF THE DRIVER

DRIVER_NUM = CAR NUMBER OF THE DRIVER

GPS = NUMBER OF GRAND PRIXS ENTERED BY THE DRIVER

WCS = NUMBER OF WORLD CHAMPIONSHIPS FOR THE DRIVER

NATION = THE COUNTRY FOR WHICH DRIVER IS DRIVING

DRIV_ACA = THE DRIVER ACADEMY IN WHICH THE DRIVER
GRADUATED

STEP THREE:

- Start coding your application (create tables, PK, FK and other constraints)
- Create tables (five – minimum)
- Create relations
- Develop constraints (PK, FK, Composite Key, Not Null, Sequences, Index etc.)
- Insert data into tables (15 rows – minimum)

Creating Tables:

```
SQL Plus
SQL> ED
Wrote file afiedt.buf

  1 CREATE TABLE TEAMS(
  2   TEAM_NAME VARCHAR2(255) NOT NULL,
  3   STAND_22 INT NOT NULL,
  4   STAND_21 INT NOT NULL,
  5*  PRIMARY KEY (TEAM_NAME))
SQL> /

Table created.

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL> _
```

```
SQL Plus
SQL> DESCRIBE TEAMS;
Name                                Null?    Type
-----
TEAM_NAME                          NOT NULL VARCHAR2(255)
STAND_22                           NOT NULL NUMBER(38)
STAND_21                           NOT NULL NUMBER(38)

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL>
```

```
Administrator: Command Prompt - sqlplus
SQL> ED
Wrote file afiedt.buf

 1 CREATE TABLE TEAM_BASIC_INFO(
 2   TEAM_NAME VARCHAR2(255) NOT NULL,
 3   TEAM_FNAME VARCHAR2(255) NOT NULL,
 4   HQ VARCHAR2(255) NOT NULL,
 5   CHASSIS VARCHAR2(255) NOT NULL,
 6   PU VARCHAR2(255) NOT NULL,
 7   TEAM_CHIEF VARCHAR2(255) NOT NULL,
 8   PRIMARY KEY (TEAM_NAME),
 9* FOREIGN KEY (TEAM_NAME) REFERENCES TEAMS (TEAM_NAME))
10 /

Table created.

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL>
```

```
SQL Plus
SQL> DESCRIBE TEAM_BASIC_INFO;

Name                               Null?    Type
-----
TEAM_NAME                          NOT NULL VARCHAR2(255)
TEAM_FNAME                          NOT NULL VARCHAR2(255)
HQ                                  NOT NULL VARCHAR2(255)
CHASSIS                             NOT NULL VARCHAR2(255)
PU                                  NOT NULL VARCHAR2(255)
TEAM_CHIEF                          NOT NULL VARCHAR2(255)

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL>
```

```
Administrator: Command Prompt - sqlplus
SQL> ED
Wrote file afiedt.buf

 1 CREATE TABLE TEAM_STATS(
 2   TEAM_NAME VARCHAR2(255) NOT NULL,
 3   FIRST_ENTRY INT NOT NULL,
 4   WC INT,
 5   HIGH_RACEF INT,
 6   POLE_POS INT,
 7   FAST_LAP INT,
 8   PRIMARY KEY (TEAM_NAME),
 9* FOREIGN KEY (TEAM_NAME) REFERENCES TEAMS (TEAM_NAME))
SQL> /

Table created.

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL>
```

```
SQL Plus
SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL> DESCRIBE TEAM_STATS;
Name                               Null?    Type
-----
TEAM_NAME                         NOT NULL VARCHAR2(255)
FIRST_ENTRY                       NOT NULL NUMBER(38)
WC                                NUMBER(38)
HIGH_RACEF                        NUMBER(38)
POLE_POS                          NUMBER(38)
FAST_LAP                          NUMBER(38)

SQL>
```



```
SQL Plus

SQL> ed
Wrote file afiedt.buf

 1 CREATE TABLE DRIVER_STATS(
 2 DRIVER_NAME VARCHAR2(255) NOT NULL,
 3 DRIVER_NUM INT NOT NULL,
 4 TEAM_NAME VARCHAR2(255) NOT NULL,
 5 PODIUMS INT,
 6 POINTS INT,
 7 GPS INT,
 8 WCS INT,
 9 HIGH_RACEF INT,
10 PRIMARY KEY (DRIVER_NAME),
11* FOREIGN KEY (TEAM_NAME) REFERENCES TEAMS(Team_NAME))
SQL> /

Table created.

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL> _
```

```
SQL Plus

SQL> DESCRIBE DRIVER_STATS;
Name                                Null?    Type
-----
DRIVER_NAME                         NOT NULL VARCHAR2(255)
DRIVER_NUM                          NOT NULL NUMBER(38)
TEAM_NAME                           NOT NULL VARCHAR2(255)
PODIUMS                             NUMBER(38)
POINTS                             NUMBER(38)
GPS                                 NUMBER(38)
WCS                                 NUMBER(38)
HIGH_RACEF                          NUMBER(38)

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL> _
```



```
Administrator: Command Prompt - sqlplus
Table created.

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMPARI
ROHIT

SQL> SELECT TABLE_NAME FROM USER_TABLES;

TABLE_NAME
-----
TEAM_BASIC_INFO
TEAM_STATS
TEAMS
DRIVER_STATS
DRIVER_INFO
SQL> _
```

Inserting data in the tables:

```
SQL Plus

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('REDBULL',1,1);
1 row created.

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('FERRARI',2,3);
1 row created.

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('MERCEDES',3,1);
1 row created.

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('MCLAREN',4,4);
1 row created.

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('ALPINE',5,5);
1 row created.

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('ALFA ROMEO',6,9);
1 row created.

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('ALPHATAURI',7,6);
1 row created.

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('ASTON MARTIN',8,7);
1 row created.

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('HAAS',9,10);
1 row created.

SQL> INSERT INTO TEAMS (TEAM_NAME,STAND_22,STAND_21) VALUES ('WILLIAMS',10,8);
1 row created.

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMPARI
ROHIT
```

```
Administrator: Command Prompt - sqlplus

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('REDBULL','ORACLE RED BULL RACING','UK','RB18','RED BULL POWERTRAINS','CHRISTIAN HORNER');
1 row created.

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('FERRARI','SCUDERIA FERRARI','ITALY','F1-75','FERRARI','MATTIA BINOTTO');
1 row created.

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('MERCEDES','MERCEDES-AMG PETRONAS F1 TEAM','UK','W13','MERCEDES','TOTO WOLFF');
1 row created.

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('MCLAREN','MCLAREN F1 TEAM','UK','MCL36','MERCEDES','ANDREAS SEIDL');
1 row created.

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('ALPINE','BWT ALPINE F1 TEAM','UK','A522','RENAULT','OTMAR SZAFNAUER');
1 row created.

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('ALFA ROMEO','ALFA ROMEO F1 TEAM ORLEN','SWITZERLAND','C42','FERRARI','FREDERIC VASSEUR');
1 row created.

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('ALPHA TAURI','SCUDERIA ALPHA TAURI','ITALY','AT03','RED BULL POWERTRAINS','FRANZ TOST');
1 row created.

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('ASTON MARTIN','ASTON MARTIN ARAMCO COGNIZANT F1 TEAM','UK','AMR22','MERCEDES','MIKE KRACK');
1 row created.

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('HAAS','HAAS F1 TEAM','US','VF-22','FERRARI','GUENTHER STEINER');
1 row created.

SQL> INSERT INTO TEAM_BASIC_INFO (TEAM_NAME,TEAM_FNAME,HQ,CHASSIS,PU,TEAM_CHIEF) VALUES ('WILLIAMS','WILLIAMS RACING','UK','FW44','MERCEDES','JOST CAPITO');
1 row created.

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
RCHIT
```

```
SQL Plus

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('REDBULL',1997,4,1,76,80);
1 row created.

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('FERRARI',1950,16,1,236,257);
1 row created.

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('MERCEDES',1970,8,1,127,85);
1 row created.

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('MCLAREN',1966,8,1,156,161);
1 row created.

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('ALPINE',1986,2,1,20,15);
1 row created.

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('ALFA ROMEO',1993,NULL,1,1,5);
1 row created.

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('ALPHA TAURI',1985,NULL,1,1,2);
1 row created.

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES (ASTON MARTIN',2018,NULL,1,1,NULL);
ERROR:
ORA-01756: quoted string not properly terminated

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('ASTON MARTIN',2018,NULL,1,1,NULL);
1 row created.

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('HAAS',2016,NULL,4,NULL,2);
1 row created.

SQL> INSERT INTO TEAM_STATS (TEAM_NAME,FIRST_ENTRY,WC,HIGH_RACEF,POLE_POS,FAST_LAP) VALUES ('WILLIAMS',1978,9,1,128,133);
1 row created.

SQL> SHOW USER,HOST_NAME FROM V$INSTANCE;
USER is "DPILLALAMARRI"
SP2-0158: unknown SHOW option ",HOST_NAME"
```

```
SQL Plus
USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('MAX VERSTAPPEN',1,'REDBULL',67,1732.5,150,1,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('SERGIO PEREZ',11,'REDBULL',20,1025,223,NULL,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('CHARLES LECLERC',16,'FERRARI',17,686,90,NULL,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('CARLOS SAINZ',55,'FERRARI',638.5,150,NULL,2);
INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('CARLOS SAINZ',55,'FERRARI',638.5,150,NULL,2)
*
ERROR at line 1:
ORA-00947: not enough values

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('CARLOS SAINZ',55,'FERRARI',11,638.5,150,NULL,2);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('LEWIS HAMILTON',44,'MERCEDES',184,4242.5,297,7,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('GEORGE RUSSELL',63,'MERCEDES',4,130,69,NULL,2);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('DANIEL RICCIARDO',3,'MCLAREN',32,1286,219,NULL,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('LANDO NORRIS',4,'MCLAREN',6,356,69,NULL,2);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('FERNANDO ALONSO',14,'ALPINE',98,1998,345,2,1);
```

```
SQL Plus
SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('FERNANDO ALONSO',14,'ALPINE',98,1998,345,2,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('ESTABON OCON',31,'ALPINE',2,311,98,NULL,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('VALTERRI BOTTAS',77,'ALFA ROMEO',67,1784,187,NULL,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('ZHOU GUANYU',24,'ALFA ROMEO',NULL,5,9,NULL,8);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('PIERRE GASLY',10,'ALPHATAURI',3,325,95,NULL,1);
INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('PIERRE GASLY',10,'ALPHATAURI',3,325,95,NULL,1)
*
ERROR at line 1:
ORA-02291: integrity constraint (DPILLALAMARRI.SYS_C007477) violated - parent key not found

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('PIERRE GASLY',10,'ALPHA TAURI',3,325,95,NULL,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('YUKI TSUNODA',22,'ALPHA TAURI',NULL,43,31,NULL,4);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('SEBASTIAN VETTEL',5,'ASTON MARTIN',122,3074,287,4,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('LANKE STROLL',18,'ASTON MARTIN',3,179,109,NULL,3);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('KEVIN MAGNUSSEN',20,'HAAS',1,173,129,NULL,2);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('MICH SCHUMACHER',47,'HAAS',NULL,NULL,30,NULL,11);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('ALEXANDER ALBON',23,'WILLIAMS',2,200,47,NULL,3);
```

```
SQL Plus

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('PIERRE GASLY',10,'ALPHATAURI',3,325,95,NULL,1);
INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('PIERRE GASLY',10,'ALPHATAURI',3,325,95,NULL,1)
*
ERROR at line 1:
ORA-02291: integrity constraint (DPILLALAMARRI.SYS_C007477) violated - parent key not found

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('PIERRE GASLY',10,'ALPHA TAURI',3,325,95,NULL,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('YUKI TSUNODA',22,'ALPHA TAURI',NULL,43,31,NULL,4);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('SEBASTIAN VETTEL',5,'ASTON MARTIN',122,3874,287,4,1);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('LANCE STROLL',18,'ASTON MARTIN',3,179,109,NULL,3);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('KEVIN MAGNUSSEN',20,'HAAS',1,173,129,NULL,2);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('MICH SCHUMACHER',47,'HAAS',NULL,NULL,30,NULL,11);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('ALEXANDER ALBON',23,'WILLIAMS',2,200,47,NULL,3);
1 row created.

SQL> INSERT INTO DRIVER_STATS (DRIVER_NAME,DRIVER_NUM,TEAM_NAME,PODIUMS,POINTS,GPS,WCS,HIGH_RACEF) values ('NICHOLAS LATIFI',6,'WILLIAMS',NULL,7,48,NULL,7);
1 row created.

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT
```

```
SQL Plus

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMARRI
ROHIT

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('MAX VERSTAPPEN','REDBULL','NETHERLANDS',24,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('SERGIO PEREZ','REDBULL','MEXICO',32,'FERRARI DRIVER ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('CHARLES LECLERC','FERRARI','MONACO',24,'FERRARI DRIVER ACADEMY');
ERROR:
ORA-01756: quoted string not properly terminated

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('CHARLES LECLERC','FERRARI','MONACO',24,'FERRARI DRIVER ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('CARLOS SAINZ','FERRARI','SPAIN',27,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('LEWIS HAMILTON','MERCEDES','UK',37,'MCLAREN YOUNG DRIVER PROGRAMME');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('GEORGE RUSSELL','MERCEDES','UK',24,'MERCEDES-BENZ DRIVING ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('DANIEL RICCIARDO','MCLAREN','AUSTRALIA',32,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('LANDO NORRIS','MCLAREN','UK',22,'MCLAREN YOUNG DRIVER PROGRAMME');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('FERNANDO ALONSO','ALPINE','SPAIN',40,'ALPINE ACADEMY');
```

```
SQL Plus
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('FERNANDO ALONSO','ALPINE','SPAIN',40,'ALPINE ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('ESTABON ACADEMY','ALPINE','FRANCE',25,'MERCEDES-BENZ DRIVING ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('VALTTERI BOTTAS','ALFA ROMEO','FINLAND',32,'WILLIAMS DRIVER ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('ZHOU GUANYU','ALFA ROMEO','CHINA',23,'ALPINE ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('PIERRE GASLY','ALPHA TAURI','FRANCE',26,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('YUKI TSUNODA','ALPHA TAURI','JAPAN',22,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL>
SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('SEBASTIAN VETTEL','ASTON MARTIN','GERMANY',34,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('LANKE STROLL','ASTON MARTIN','CANADA',23,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('KEVIN MAGNUSSEN','HAAS','DENMARK',29,'MCLAREN YOUNG DRIVER PROGRAMME');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('MICK SCHUMACHER','HAAS','GERMANY',23,'FERRARI DRIVER ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('ALEXANDER ALBON','WILLIAMS','THAILAND',26,'REDBULL JUNIOR ACADEMY');
ERROR:
ORA-01756: quoted string not properly terminated

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('ALEXANDER ALBON','WILLIAMS','THAILAND',26,'REDBULL JUNIOR ACADEMY');
```

```
SQL Plus
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('PIERRE GASLY','ALPHA TAURI','FRANCE',26,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('YUKI TSUNODA','ALPHA TAURI','JAPAN',22,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL>
SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('SEBASTIAN VETTEL','ASTON MARTIN','GERMANY',34,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('LANKE STROLL','ASTON MARTIN','CANADA',23,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('KEVIN MAGNUSSEN','HAAS','DENMARK',29,'MCLAREN YOUNG DRIVER PROGRAMME');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('MICK SCHUMACHER','HAAS','GERMANY',23,'FERRARI DRIVER ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('ALEXANDER ALBON','WILLIAMS','THAILAND',26,'REDBULL JUNIOR ACADEMY');
ERROR:
ORA-01756: quoted string not properly terminated

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('ALEXANDER ALBON','WILLIAMS','THAILAND',26,'REDBULL JUNIOR ACADEMY');
1 row created.

SQL> INSERT INTO DRIVER_INFO (DRIVER_NAME,TEAM_NAME,NATION,AGE,DRIV_ACA) VALUES('NICHOLAS LATIFI','WILLIAMS','CANADA',26,'WILLIAMS DRIVER ACADEMY');
1 row created.

SQL> select user,host_name from v$instance;

USER
-----
HOST_NAME
-----
DPILLALAMPARRI
ROHIT
```

STEP 4:

- Develop SQL queries
- Advanced SQL queries

Query 1:

SHOW TOP 5 DRIVERS WITH MOST WIN PERCENTAGE

CONDITIONS: DRIVER SHOULD ATLEAST HAVE 24 RACE STARTS.

```
SQL Plus
1* select user,host_name from v$instance
SQL> ED
Wrote file afiedt.buf

  1  SELECT DRIVER_NAME ,PODIUMS/GPS*100 AS "WIN_PERCENT"
  2  FROM DRIVER_STATS
  3  WHERE GPS>25 AND PODIUMS>0
  4  ORDER BY PODIUMS/GPS*100 DESC
  5* FETCH FIRST 5 ROWS ONLY
SQL> /

DRIVER_NAME
-----
WIN_PERCENT
-----
LEWIS HAMILTON
61.952862
MAX VERSTAPPEN
44.666667
SEBASTIAN VETTEL
42.5087108
VALTERRI BOTTAS
35.828877
FERNANDO ALONSO
28.4057971

SQL> SELECT USER , HOST_NAME FROM V$INSTANCE;

USER                                     HOST_NAME
-----
DPILLALAMARRI                           ROHIT

SQL>
```

QUERY 2:

TEAMS WITH MOST WORLD CHAMPIONSHIPS

```
SQL Plus
SQL> ED
Wrote file afiedt.buf

  1  SELECT TEAM_NAME , WC
  2  FROM TEAM_STATS
  3  WHERE WC>0
  4* ORDER BY WC DESC
SQL> /

TEAM_NAME
-----
WC
-----
FERRARI      16
WILLIAMS      9
MERCEDES      8
MCLAREN      8
REDBULL      4
ALPINE        2

6 rows selected.

SQL> SELECT USER, HOST_NAME FROM V$INSTANCE;

USER                                HOST_NAME
-----                                -
DPILLALAMARRI                       ROHIT

SQL>
```

QUERY 3:

DRIVER ACADEMIES WITH MOST NUMBER OF DRIVERS

```
SQL Plus
SQL> ED
Wrote file afiedt.buf

  1  SELECT DRIV_ACA,COUNT(DRIV_ACA) AS COUNT
  2  FROM DRIVER_INFO
  3  GROUP BY DRIV_ACA
  4* ORDER BY COUNT DESC
SQL> /

DRIV_ACA
-----
COUNT
-----
REDBULL JUNIOR ACADEMY      7
FERRARI DRIVER ACADEMY     3
WILLIAMS DRIVER ACADEMY    3
MCLAREN YOUNG DRIVER PROGRAMME 3
MERCEDES-BENZ DRIVING ACADEMY 2
ALPINE ACADEMY             2

6 rows selected.

SQL> SELECT USER,HOST_NAME FROM V$INSTANCE;

USER                                HOST_NAME
-----                                -
DPILLALAMARRI                       ROHIT

SQL>
```

QUERY 4:

SHOW DRIVERS WITH MOST EXPERIENCE AND POINTS SCORED BY THEM

```
SQL Plus
SQL> ED
wrote file afiedt.buf

 1 SELECT DRIVER_NAME , GPS, POINTS
 2 FROM DRIVER_STATS
 3 ORDER BY GPS DESC
 4* FETCH FIRST 5 ROWS ONLY
SQL> /

DRIVER_NAME
-----
GPS          POINTS
-----
FERNANDO ALONSO
345          1998
LEWIS HAMILTON
297          4243
SEBASTIAN VETTEL
287          3074
SERGIO PEREZ
223          1025
DANIEL RICCIARDO
219          1286

SQL> SELECT USER,HOST_NAME FROM V$INSTANCE;

USER                                HOST_NAME
-----                                -
DPILLALAMARRI                       ROHIT

SQL>
```

QUERY 5:

SELECT DRIVER ACADEMIES WITH MOST WORLD CHAMPIONSHIPS

```
SQL Plus
SQL> ED
wrote file afiedt.buf

 1 SELECT DRIVER_INFO.DRIV_ACA, DRIVER_STATS.WCS, DRIVER_STATS.DRIVER_NAME
 2 FROM DRIVER_STATS
 3 FULL OUTER JOIN DRIVER_INFO
 4 ON DRIVER_STATS.DRIVER_NAME=DRIVER_INFO.DRIVER_NAME
 5 WHERE DRIVER_STATS.WCS>0
 6* ORDER BY DRIVER_STATS.WCS DESC
SQL> /

DRIV_ACA
-----
WCS
-----
DRIVER_NAME
-----
MCLAREN YOUNG DRIVER PROGRAMME
7
LEWIS HAMILTON
REDBULL JUNIOR ACADEMY
4
SEBASTIAN VETTEL
ALPINE ACADEMY
2
FERNANDO ALONSO
REDBULL JUNIOR ACADEMY
1
MAX VERSTAPPEN

SQL> SELECT USER,HOST_NAME FROM V$INSTANCE;

USER                                HOST_NAME
-----                                -
DPILLALAMARRI                       ROHIT

SQL>
```


Step Five:

- Develop report
- Analyze data

From the above queries made and by the data I gathered for the project , the conclusion I got is that the red bull academy is the most successful academy in the sport because seven drivers from the 20 drivers are from red bull academy and the academy even has 5 championships.

Lewis Hamilton is most successful driver in the current grid with most wins, most world championships and most points.