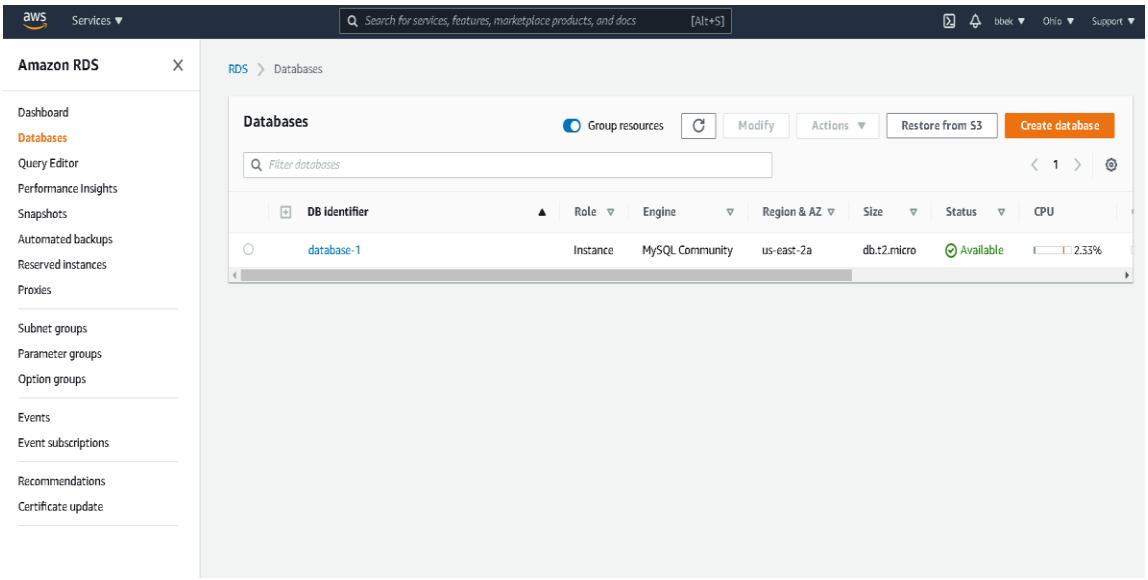
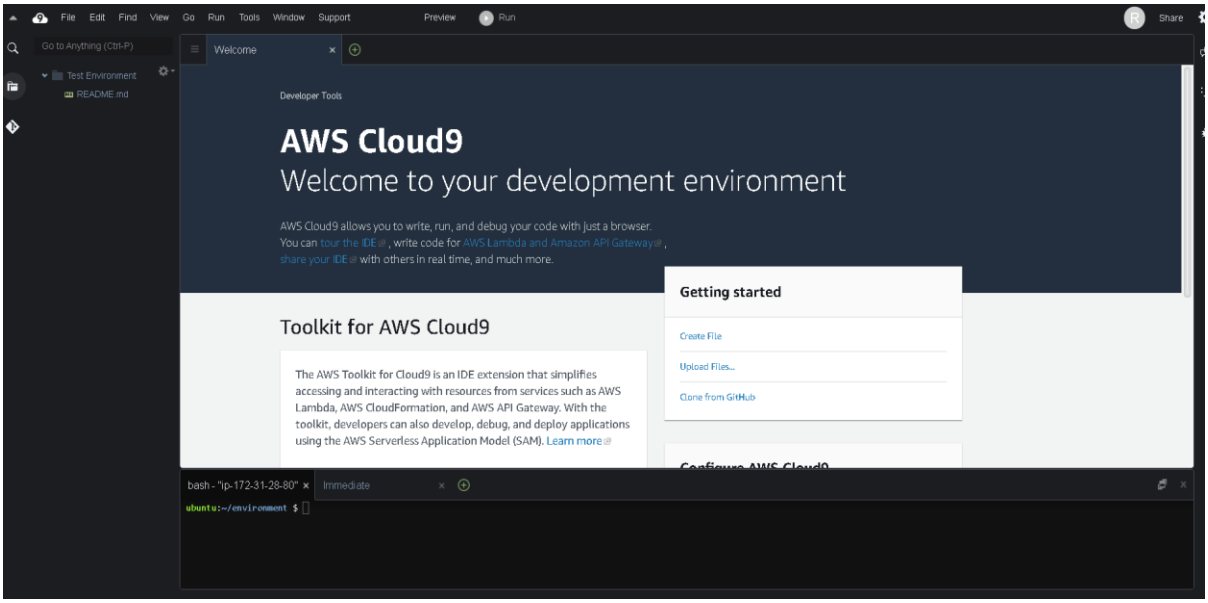
Assignment#3

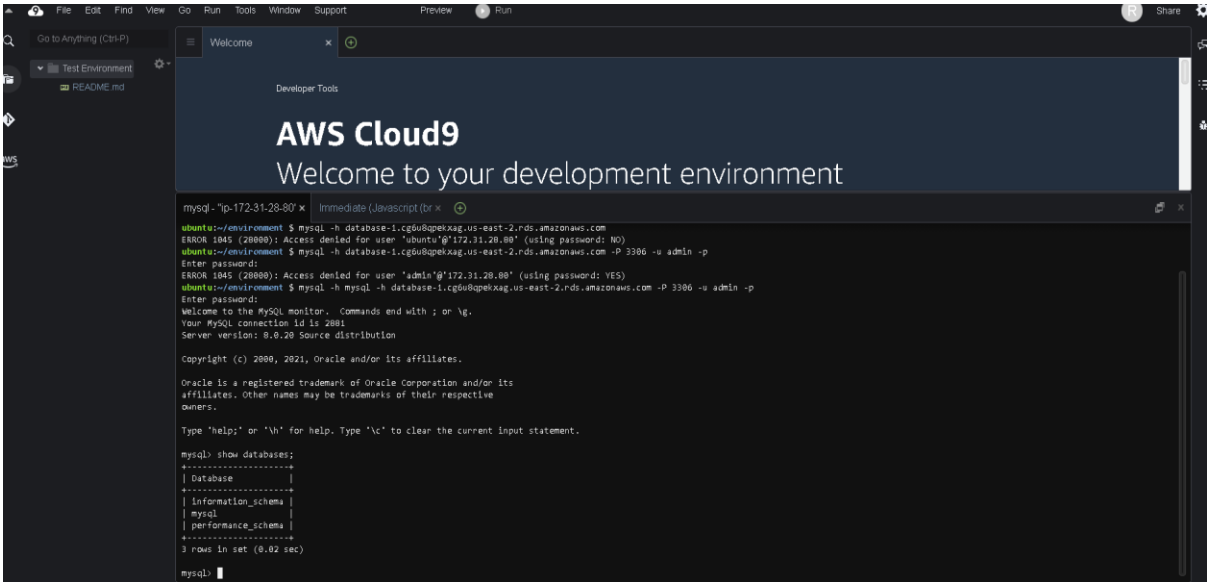
1. In AWS RDS, create an MySQL database instance (Free tier), following the recording provided in Week3. (Set the inbound IP address to 0.0.0.0, which make it accessible from anywhere) — attach a screenshot.



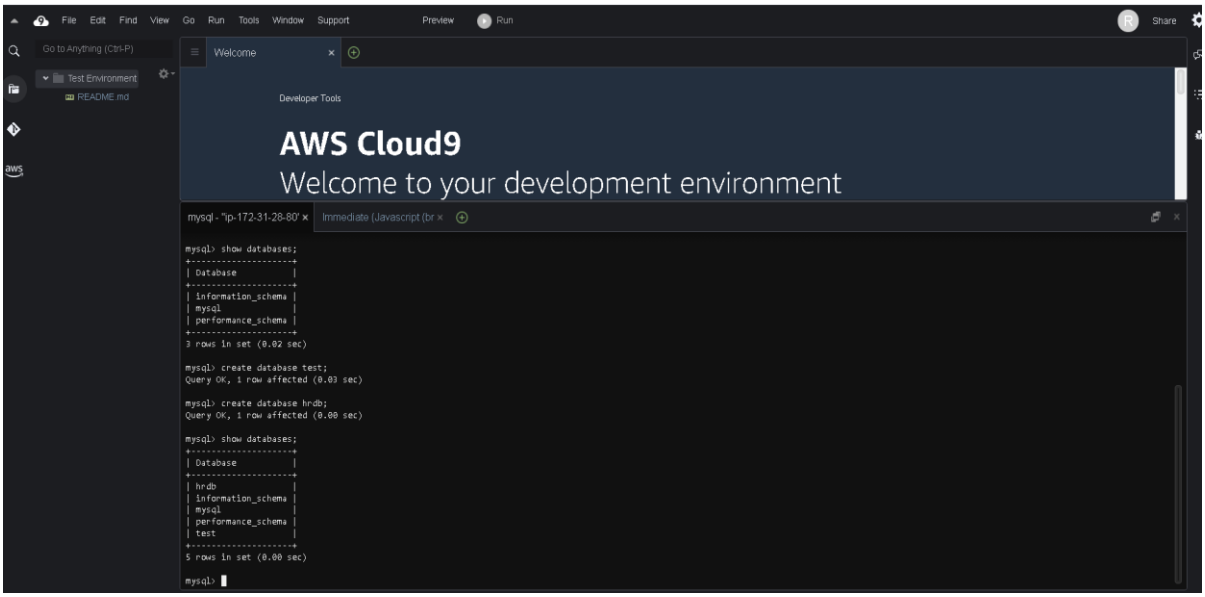
2. In AWS Cloud9, create an environment (Free tier instance, with Ubuntu 18.04 system), following the recording provided in Week 3. —attach a screenshot.



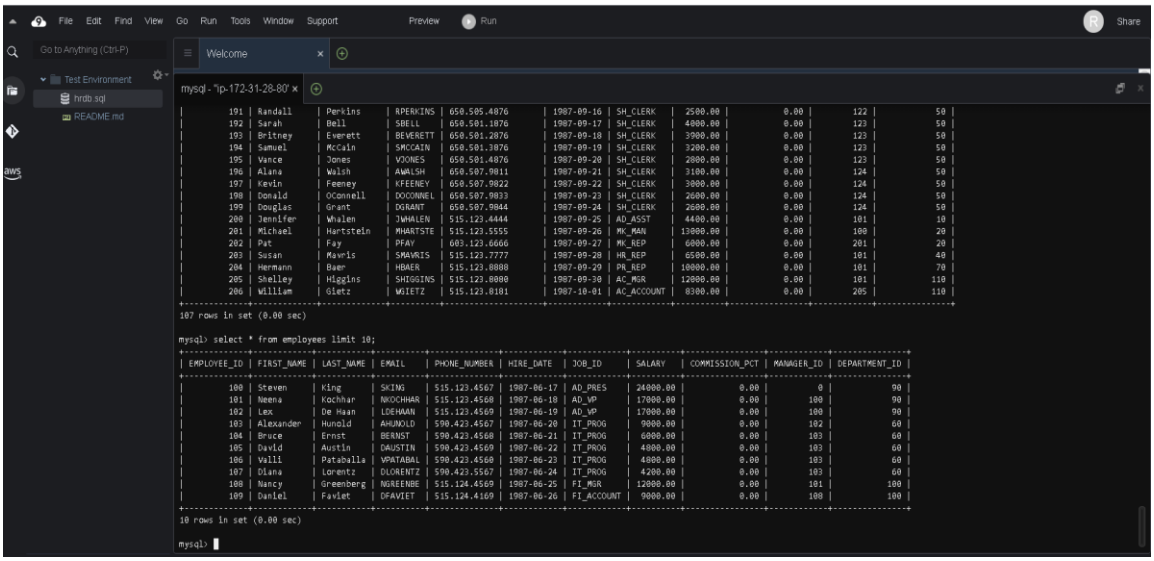
3. Connect the database instance in AWS RDS from Cloud9 environment, following the recording provided in Week 3. — attach a screenshot



4. After you connect to the MySQL database on RDS, create a database named hrdb (using SQL statement), use SQL statement to show databases. — attach a screenshot.



5. Create tables and load data into those tables using the “hrdb.sql” I provided in D2L, then use SQL statement to show tables. — attach a screenshot Hint: in mysql shell, “use hrdb;” “source hrdb.sql;”



6. Answer the following questions with SQL statements, and attach screenshots. (You need to provide SQL statements and screenshots of the results / part of the results) — use employees table.

1. Write a query to get unique department ID from employee table.

SELECT DISTINCT DEPARTMENT_ID from employees;

```
mysql> SELECT DISTINCT DEPARTMENT_ID from employees;
+---------------+
| DEPARTMENT_ID |
+---------------+
|             0 |
|            10 |
|            20 |
|            30 |
|            40 |
|            50 |
|            60 |
|            70 |
|            80 |
|            90 |
|           100 |
|           110 |
+---------------+
12 rows in set (0.00 sec)
```

2. Write a query to get all employee details from the employee table order by first name, descending.

SELECT * from employees order by FIRST_NAME desc;

```
mysql> SELECT * from employees order by FIRST_NAME desc;
+-------------+------------+------------+----------+--------------------+------------+------------+----------+----------------+------------+---------------+
| EMPLOYEE_ID | FIRST_NAME | LAST_NAME  | EMAIL    | PHONE_NUMBER       | HIRE_DATE  | JOB_ID     | SALARY   | COMMISSION_PCT | MANAGER_ID | DEPARTMENT_ID |
+-------------+------------+------------+----------+--------------------+------------+------------+----------+----------------+------------+---------------+
|         180 | Winston    | Taylor     | WTAYLOR  | 650.507.9876       | 1987-09-05 | SH_CLERK   |  3200.00 |           0.00 |        120 |            50 |
|         171 | William    | Smith      | WSMITH   | 011.44.1343.629268 | 1987-08-27 | SA_REP     |  7400.00 |           0.15 |        148 |            80 |
|         206 | William    | Gietz      | WGIETZ   | 515.123.8181       | 1987-10-01 | AC_ACCOUNT |  8300.00 |           0.00 |        205 |           110 |
|         195 | Vance      | Jones      | VJONES   | 650.501.4876       | 1987-09-20 | SH_CLERK   |  2800.00 |           0.00 |        123 |            50 |
|         106 | Valli      | Pataballa  | VPATABAL | 590.423.4560       | 1987-06-23 | IT_PROG    |  4800.00 |           0.00 |        103 |            60 |
|         141 | Trenna     | Rajs       | TRAJS    | 650.121.8009       | 1987-07-28 | ST_CLERK   |  3500.00 |           0.00 |        124 |            50 |
|         132 | TJ         | Olson      | TJOLSON  | 650.124.8234       | 1987-07-19 | ST_CLERK   |  2100.00 |           0.00 |        121 |            50 |
|         190 | Timothy    | Gates      | TGATES   | 650.505.3876       | 1987-09-15 | SH_CLERK   |  2900.00 |           0.00 |        122 |            50 |
|         170 | Tayler     | Fox        | TFOX     | 011.44.1343.729268 | 1987-08-26 | SA_REP     |  9600.00 |           0.20 |        148 |            80 |
|         203 | Susan      | Mavris     | SMAVRIS  | 515.123.7777       | 1987-09-28 | HR_REP     |  6500.00 |           0.00 |        101 |            40 |
|         173 | Sundita    | Kumar      | SKUMAR   | 011.44.1343.329268 | 1987-08-29 | SA_REP     |  6100.00 |           0.10 |        148 |            80 |
|         166 | Sundar     | Ande       | SANDE    | 011.44.1346.629268 | 1987-08-22 | SA_REP     |  6400.00 |           0.10 |        147 |            80 |
|         100 | Steven     | King       | SKING    | 515.123.4567       | 1987-06-17 | AD_PRES    | 24000.00 |           0.00 |          0 |            90 |
|         128 | Steven     | Markle     | SMARKLE  | 650.124.1434       | 1987-07-15 | ST_CLERK   |  2200.00 |           0.00 |        120 |            50 |
|         138 | Stephen    | Stiles     | SSTILES  | 650.121.2034       | 1987-07-25 | ST_CLERK   |  3200.00 |           0.00 |        123 |            50 |
|         117 | Sigal      | Tobias     | STOBIAS  | 515.127.4564       | 1987-07-04 | PU_CLERK   |  2800.00 |           0.00 |        114 |            30 |
|         116 | Shelli     | Baida      | SBAIDA   | 515.127.4563       | 1987-07-03 | PU_CLERK   |  2900.00 |           0.00 |        114 |            30 |
|         205 | Shelley    | Higgins    | SHIGGINS | 515.123.8080       | 1987-09-30 | AC_MGR     | 12000.00 |           0.00 |        101 |           110 |
|         123 | Shanta     | Vollman    | SVOLLMAN | 650.123.4234       | 1987-07-10 | ST_MAN     |  6500.00 |           0.00 |        100 |            50 |
|         161 | Sarath     | Sewall     | SSEWALL  | 011.44.1345.529268 | 1987-08-17 | SA_REP     |  7000.00 |           0.25 |        146 |            80 |
|         192 | Sarah      | Bell       | SBELL    | 650.501.1876       | 1987-09-17 | SH_CLERK   |  4000.00 |           0.00 |        123 |            50 |
|         194 | Samuel     | McCain     | SMCCAIN  | 650.501.3876       | 1987-09-19 | SH_CLERK   |  3200.00 |           0.00 |        123 |            50 |
|         137 | Renske     | Ladwig     | RLADWIG  | 650.121.1234       | 1987-07-24 | ST_CLERK   |  3600.00 |           0.00 |        123 |            50 |
|         143 | Randall    | Matos      | RMATOS   | 650.121.2874       | 1987-07-30 | ST_CLERK   |  2600.00 |           0.00 |        124 |            50 |
```

3. Write a query to get the names (first_name, last_name), salary, PF of all the employees (PF is calculated as 15% of salary).

SELECT FIRST_NAME,LAST_NAME,SALARY,SALARY*0.15 as PF FROM employees;

```
mysql> SELECT FIRST_NAME,LAST_NAME,SALARY,SALARY*0.15 as PF FROM employees;
+-------------+-------------+----------+-----------+
| FIRST_NAME  | LAST_NAME   | SALARY   | PF        |
+-------------+-------------+----------+-----------+
| Steven      | King        | 24000.00 | 3600.0000 |
| Neena       | Kochhar     | 17000.00 | 2550.0000 |
| Lex         | De Haan     | 17000.00 | 2550.0000 |
| Alexander   | Hunold      |  9000.00 | 1350.0000 |
| Bruce       | Ernst       |  6000.00 |  900.0000 |
| David       | Austin      |  4800.00 |  720.0000 |
| Valli       | Pataballa   |  4800.00 |  720.0000 |
| Diana       | Lorentz     |  4200.00 |  630.0000 |
| Nancy       | Greenberg   | 12000.00 | 1800.0000 |
| Daniel      | Faviet      |  9000.00 | 1350.0000 |
| John        | Chen        |  8200.00 | 1230.0000 |
| Ismael      | Sciarra     |  7700.00 | 1155.0000 |
| Jose Manuel | Urman       |  7800.00 | 1170.0000 |
| Luis        | Popp        |  6900.00 | 1035.0000 |
| Den         | Raphaely    | 11000.00 | 1650.0000 |
| Alexander   | Khoo        |  3100.00 |  465.0000 |
| Shelli      | Baida       |  2900.00 |  435.0000 |
| Sigal       | Tobias      |  2800.00 |  420.0000 |
| Guy         | Himuro      |  2600.00 |  390.0000 |
```

4. Write a query to get the total salaries payable to employees.

SELECT sum(SALARY) as payabaleSalaries from employees;

```
mysql> select sum(salary) as payabalSalaries from employees;
+-----------------+
| payabalSalaries |
+-----------------+
|       691400.00 |
+-----------------+
1 row in set (0.00 sec)

mysql>
```

5. Write a query to get the number of employees working with the company.

SELECT count(*) from employees;

```
mysql> select count(*) from employees;
+----------+
| count(*) |
+----------+
|      107 |
+----------+
1 row in set (0.00 sec)

mysql>
```

6. Write a query to display the name (first_name, last_name) and department ID of all employees in departments 30 or 100 in ascending order.

SELECT FIRST_NAME,LAST_NAME,DEPARTMENT_ID from employees where DEPARTMENT_ID=30 or DEPARTMENT_ID=100 order by FIRST_NAME asc;

```
mysql> SELECT FIRST_NAME,LAST_NAME,DEPARTMENT_ID from employees where DEPARTMENT_ID=30 or  DEPARTMENT_ID=100  order by FIRST_NAME asc;
+-------------+------------+---------------+
| FIRST_NAME  | LAST_NAME  | DEPARTMENT_ID |
+-------------+------------+---------------+
| Alexander   | Khoo       |            30 |
| Daniel      | Faviet     |           100 |
| Den         | Raphaely   |            30 |
| Guy         | Himuro     |            30 |
| Ismael      | Sciarra    |           100 |
| John        | Chen       |           100 |
| Jose Manuel | Urman      |           100 |
| Karen       | Colmenares |            30 |
| Luis        | Popp       |           100 |
| Nancy       | Greenberg  |           100 |
| Shelli      | Baida      |            30 |
| Sigal       | Tobias     |            30 |
+-------------+------------+---------------+
12 rows in set (0.00 sec)
```

7. Write a query to display the name (first_name, last_name) and hire date for all employees who were hired in 1987.

   SELECT FIRST_NAME,LAST_NAME,HIRE_DATE from employees where year(HIRE_DATE)=1987;

```
mysql> SELECT FIRST_NAME,LAST_NAME,HIRE_DATE from employees where year(HIRE_DATE)=1987;
+------------+------------+------------+
| FIRST_NAME | LAST_NAME  | HIRE_DATE  |
+------------+------------+------------+
| Steven     | King       | 1987-06-17 |
| Neena      | Kochhar    | 1987-06-18 |
| Lex        | De Haan    | 1987-06-19 |
| Alexander  | Hunold     | 1987-06-20 |
| Bruce      | Ernst      | 1987-06-21 |
| David      | Austin     | 1987-06-22 |
| Valli      | Pataballa  | 1987-06-23 |
| Diana      | Lorentz    | 1987-06-24 |
| Nancy      | Greenberg  | 1987-06-25 |
| Daniel     | Faviet     | 1987-06-26 |
| John       | Chen       | 1987-06-27 |
| Ismael     | Sciarra    | 1987-06-28 |
| Jose Manuel| Urman      | 1987-06-29 |
| Luis       | Popp       | 1987-06-30 |
| Den        | Raphaely   | 1987-07-01 |
| Alexander  | Khoo       | 1987-07-02 |
| Shelli     | Baida      | 1987-07-03 |
| Sigal      | Tobias     | 1987-07-04 |
| Guy        | Himuro     | 1987-07-05 |
| Karen      | Colmenares | 1987-07-06 |
```

8. Write a query to display the last name of employees having ’e’ as the third character.

   SELECT LAST_NAME from employees where LAST_NAME like '__e';

```
mysql> SELECT LAST_NAME from employees where LAST_NAME like '__e';
+-----------+
| LAST_NAME |
+-----------+
| Gee       |
| Lee       |
+-----------+
2 rows in set (0.00 sec)
```

9. Write a query to get the maximum salary of an employee working as a Programmer.

   SELECT MAX(SALARY) from employees where JOB_ID='IT_PROG';

```
mysql> SELECT MAX(SALARY) from employees where JOB_ID='IT_PROG';
+-------------+
| MAX(SALARY) |
+-------------+
|     9000.00 |
+-------------+
1 row in set (0.01 sec)
```

10. Write a query to get the average salary and number of employees working the department 90.

SELECT AVG(SALARY), COUNT(*) from employees where DEPARTMENT_ID=90;

```
mysql> SELECT AVG(SALARY), COUNT(*) from employees where DEPARTMENT_ID=90;
+--------------+----------+
| AVG(SALARY)  | COUNT(*) |
+--------------+----------+
| 19333.333333 |        3 |
+--------------+----------+
1 row in set (0.00 sec)
```