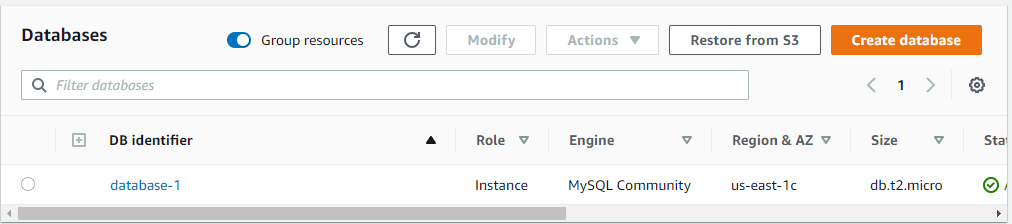
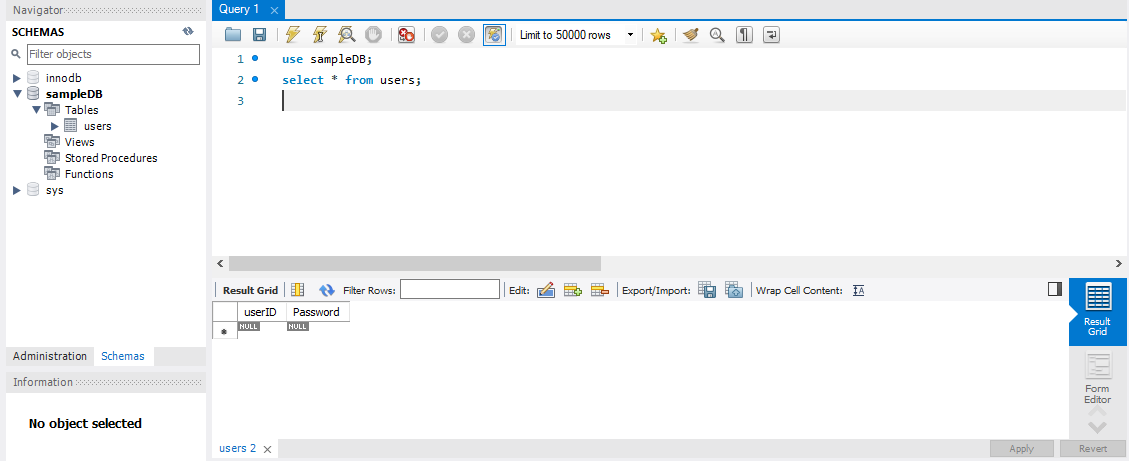
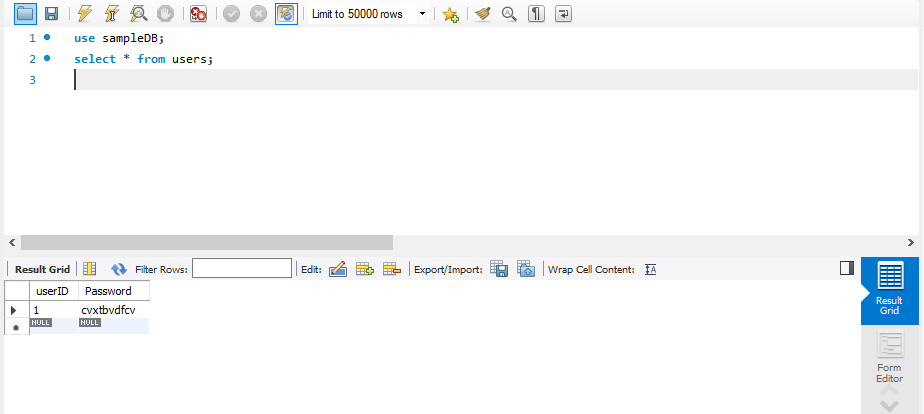
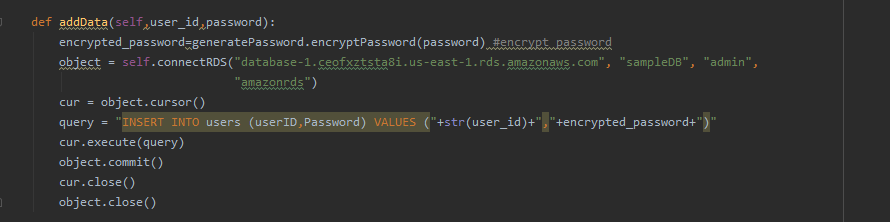
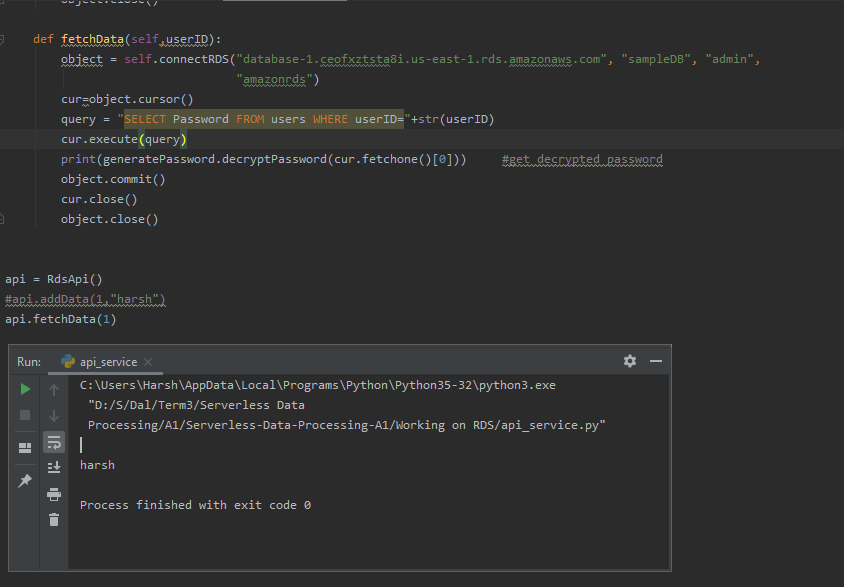
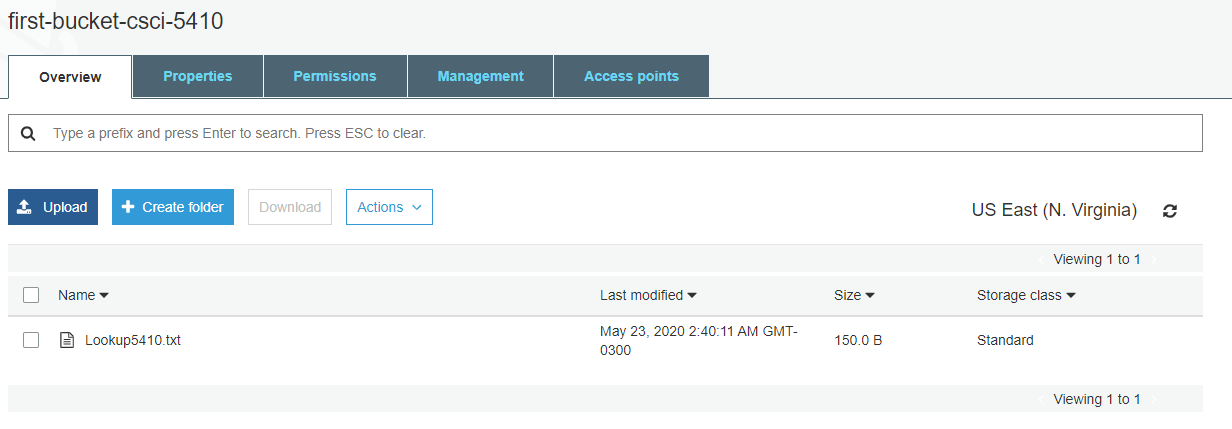
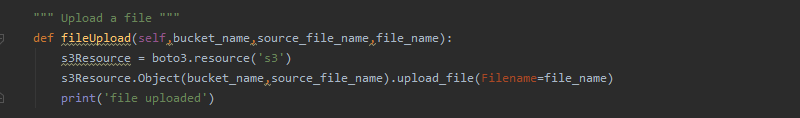
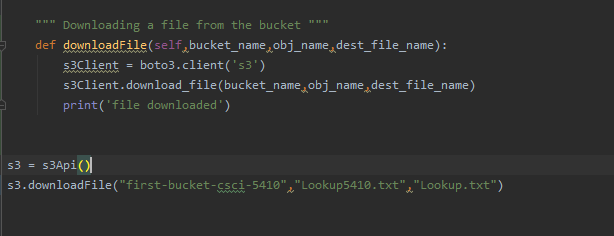
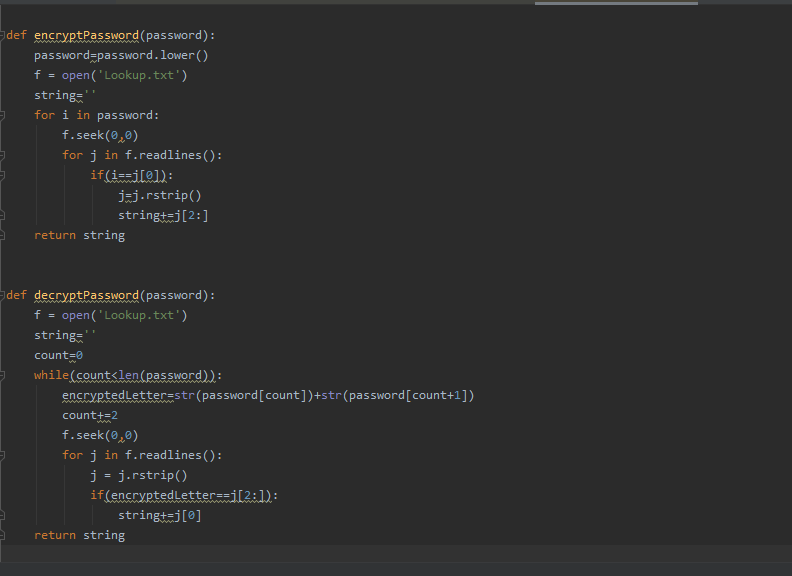
**Part C: AWS RDS database service experiment**

1. Create MySQL DB instance using RDS 
2. Create single table database with two fields (‘userID’, ‘Password’) 
3. Insert userID and Password into the database  
4. Write a function to Retrieve password from given userID 
5. Python-mysql connector library for integration of RDS with python 
6. The password must be encrypted before inserting and decrypted after fetching. The ‘Lookup5410.txt’ file is uploaded on S3 bucket and then downloaded back on the local system.
   1. File upload:  
   2. File download 
   3. Password encryption and decryption function 

**Note**: The function for uploading the lookup file to the s3 bucket and downloading it to the local system is provided in the source code of **Part B**

**Source code**

**api\_service.py**

import mysql.connector  
import generatePassword  
  
  
class RdsApi:  
  
 def connectRDS(self,host,database,user,password):  
 return mysql.connector.connect(  
 host=host,  
 database=database,  
 user=user,  
 password=password)  
  
 def addData(self,user\_id,password):  
 encrypted\_password=generatePassword.encryptPassword(password) #encrypt password  
 object = self.connectRDS("database-1.ceofxztsta8i.us-east-1.rds.amazonaws.com", "sampleDB", "admin","amazonrds")  
 cur = object.cursor()  
 query = 'INSERT INTO users (userID,Password) VALUES ({0},"{1}")'.format(str(user\_id),encrypted\_password)  
 cur.execute(query)  
 object.commit()  
 cur.close()  
 object.close()  
  
 def fetchData(self,userID):  
 object = self.connectRDS("database-1.ceofxztsta8i.us-east-1.rds.amazonaws.com", "sampleDB", "admin",  
 "amazonrds")  
 cur=object.cursor()  
 query = "SELECT Password FROM users WHERE userID="+str(userID)  
 cur.execute(query)  
 print(generatePassword.decryptPassword(cur.fetchone()[0])) #get decrypted password  
 object.commit()  
 cur.close()  
 object.close()  
  
  
api = RdsApi()  
api.addData(1,"harsh")  
api.fetchData(1)

**generatePassword.py**

def encryptPassword(password):  
 password=password.lower()  
 f = open('Lookup.txt')  
 string=''  
 for i in password:  
 f.seek(0,0)  
 for j in f.readlines():  
 if(i==j[0]):  
 j=j.rstrip()  
 string+=j[2:]  
 return string  
  
def decryptPassword(password):  
 f = open('Lookup.txt')  
 string=''  
 count=0  
 while(count<len(password)):  
 encryptedLetter=str(password[count])+str(password[count+1])  
 count+=2  
 f.seek(0,0)  
 for j in f.readlines():  
 j = j.rstrip()  
 if(encryptedLetter==j[2:]):  
 string+=j[0]  
 return string

**References**

[1]*Pynative.com*, 2020. [Online]. Available: https://pynative.com/python-mysql-database-connection/. [Accessed: 25- May- 2020].