

ADBMS Experiment 5

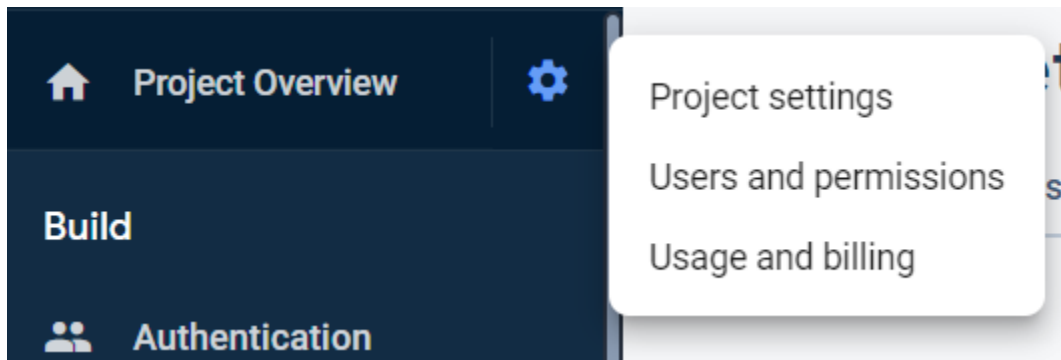
Ojas Patil
2019130048
TE COMPS
Batch: A

Aim: To demonstrate use of cloud database

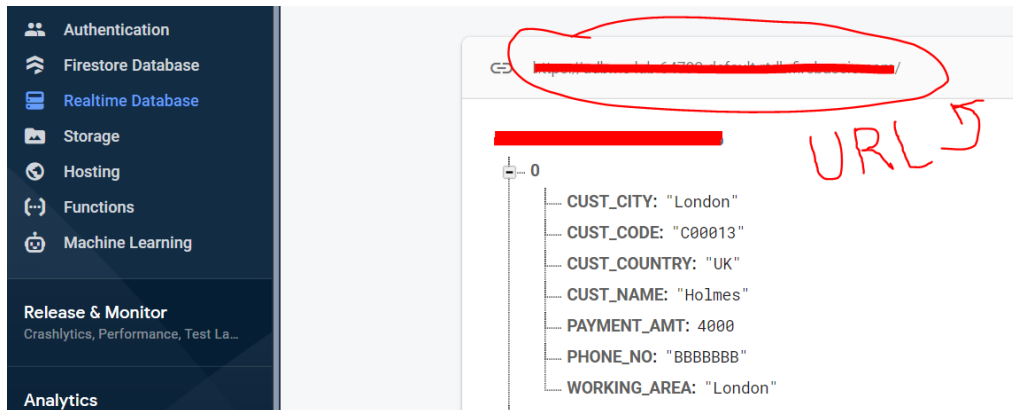
Procedure:

A. Online firebase setup

1. Create your account firebase
2. Create a realtime database by following appropriate steps
(Make sure you select Test mode while creating the realtime DB)
3. Now click on setting wheel beside Project Overview and click 'Project settings'



4. Now click on the Service accounts tab and Generate a new private key. This will download a json file, keep it in the same directory as that of your python script.
5. Click on the 'Realtime Database' tab in the left panel. Now, copy the database url from top of the database.



B. Python script

1. Install firebase_admin module using the command “pip install firebase_admin”
2. Write down following lines in your python file

```
import firebase_admin
from firebase_admin import credentials
from firebase_admin import db
import json

cred = credentials.Certificate("firebase-adminsdk-  
firebase_admin = firebase_admin.initialize_app(cred, {'databaseURL': '  
ref = db.reference(path="/")
```

Write the path of the downloaded json file enclosed in double quotes in credentials.Certificate()

Provide the database url in the 'databaseURL' key of initialize_app()

3. To insert the data:

```
myData = None
with open('mydata.json', 'r') as mD:
    myData = json.load(mD)
    for data in myData:
        ref.push(data)
```

mydata.json contains the data to be inserted in json format.

Ref.push inserts the data on cloud database

Realtime Database

Data

Rules

Backups

Usage

 <https://adbms-lab-64793-default-rtdb.firebaseio.com/>

adbms-lab-64793-default-rtdb

 -MzV6NOFYbGFucR1pPXB

..... CUST_CITY: "London"

..... CUST_CODE: "C00013"

..... CUST_COUNTRY: "UK"

..... CUST_NAME: "Holmes"

..... PAYMENT_AMT: 4000

..... PHONE_NO: "BBBBBBB"

..... WORKING_AREA: "London"

4. To read from data:

```
for _ in ref.get():  
    print(_)
```

ref.get() fetches all the data from cloud database and returns it in the form of list of json objects

```
C:\Users\ojasp\Documents\Sem VI\ADBMS\python -u "c:\Users\ojasp\Documents\Sem VI\ADBMS\Exp5.py"
{'CUST_CITY': 'London', 'CUST_CODE': 'C00013', 'CUST_COUNTRY': 'UK', 'CUST_NAME': 'Holmes', 'PAYMENT_AMT': 4000.0, 'PHONE_NO': 'BBBBBBB', 'WORKING_AREA': 'London'}
{'CUST_CITY': 'New York', 'CUST_CODE': 'C00001', 'CUST_COUNTRY': 'USA', 'CUST_NAME': 'Micheal', 'PAYMENT_AMT': 6000.0, 'PHONE_NO': 'CCCCCCC', 'WORKING_AREA': 'New York'}
{'CUST_CITY': 'New York', 'CUST_CODE': 'C00020', 'CUST_COUNTRY': 'USA', 'CUST_NAME': 'Albert', 'PAYMENT_AMT': 6000.0, 'PHONE_NO': 'BBBBBBB', 'WORKING_AREA': 'New York'}
{'CUST_CITY': 'London', 'CUST_CODE': 'C00015', 'CUST_COUNTRY': 'UK', 'CUST_NAME': 'Stuart', 'PAYMENT_AMT': 11000.0, 'PHONE_NO': 'GFSGERS', 'WORKING_AREA': 'London'}
{'CUST_CITY': 'Brisban', 'CUST_CODE': 'C00018', 'CUST_COUNTRY': 'Australia', 'CUST_NAME': 'Fleming', 'PAYMENT_AMT': 5000.0, 'PHONE_NO': 'NHBGVFC', 'WORKING_AREA': 'Brisban'}
{'CUST_CITY': 'Brisban', 'CUST_CODE': 'C00021', 'CUST_COUNTRY': 'Australia', 'CUST_NAME': 'Jacks', 'PAYMENT_AMT': 7000.0, 'PHONE_NO': 'WERTGDF', 'WORKING_AREA': 'Brisban'}
{'CUST_CITY': 'Chennai', 'CUST_CODE': 'C00019', 'CUST_COUNTRY': 'India', 'CUST_NAME': 'Yearannaidu', 'PAYMENT_AMT': 8000.0, 'PHONE_NO': 'ZZZZBFV', 'WORKING_AREA': 'Chennai'}
{'CUST_CITY': 'Mumbai', 'CUST_CODE': 'C00005', 'CUST_COUNTRY': 'India', 'CUST_NAME': 'Sasikant', 'PAYMENT_AMT': 11000.0, 'PHONE_NO': '147-25896312', 'WORKING_AREA': 'Mumbai'}
{'CUST_CITY': 'Chennai', 'CUST_CODE': 'C00007', 'CUST_COUNTRY': 'India', 'CUST_NAME': 'Ramanathan', 'PAYMENT_AMT': 9000.0, 'PHONE_NO': 'GHRDWD', 'WORKING_AREA': 'Chennai'}
{'CUST_CITY': 'Mumbai', 'CUST_CODE': 'C00022', 'CUST_COUNTRY': 'India', 'CUST_NAME': 'Avinash', 'PAYMENT_AMT': 9000.0, 'PHONE_NO': '113-12345678', 'WORKING_AREA': 'Mumbai'}
{'CUST_CITY': 'Brisban', 'CUST_CODE': 'C00004', 'CUST_COUNTRY': 'Australia', 'CUST_NAME': 'Winston', 'PAYMENT_AMT': 6000.0, 'PHONE_NO': 'AAAAAAA', 'WORKING_AREA': 'Brisban'}
{'CUST_CITY': 'New York', 'CUST_CODE': 'C00002', 'CUST_COUNTRY': 'USA', 'CUST_NAME': 'Max', 'PAYMENT_AMT': 3000.0, 'PHONE_NO': 'DDNRDRH', 'WORKING_AREA': 'New York'}
{'CUST_CITY': 'London', 'CUST_CODE': 'C00024', 'CUST_COUNTRY': 'UK', 'CUST_NAME': 'Fan', 'PAYMENT_AMT': 6000.0, 'PHONE_NO': 'FSDSDSF', 'WORKING_AREA': 'London'}
{'CUST_CITY': 'Bangalore', 'CUST_CODE': 'C00026', 'CUST_COUNTRY': 'India', 'CUST_NAME': 'Ravindran', 'PAYMENT_AMT': 8000.0, 'PHONE_NO': 'AVAVAVA', 'WORKING_AREA': 'Bangalore'}
```

5. To update the data

```
for key, value in ref.get().items():
    if(value["CUST_CODE"] == "C00013"):
        ref.child(key).update({"CUST_CITY": "MOSCOW"})
```

adbms-lab-64793-default-rtdb

```
-MzV6N0fYbGFucR1pPXB
----- CUST_CITY: "MOSCOW"
----- CUST_CODE: "C00013"
----- CUST_COUNTRY: "UK"
----- CUST_NAME: "Holmes"
----- PAYMENT_AMT: 4000
----- PHONE_NO: "BBBBBBB"
----- WORKING_AREA: "London"
```

Updating cust_city to Moscow where cust-code is 'C00013'

6. To delete data

```
for key, value in ref.get().items():
    if(value["CUST_CODE"] == "C00013"):
        ref.child(key).delete()
```

As I have deleted the row containing Cust_code as 'C00013', its identifier, 'MzV6NOFYbGFucR1pPXB' is no longer visible on the cloud database.

adbms-lab-64793-default-rtdb

- + -MzV6NSz4InoqozOwdCJ
- + -MzV6NXVreKixdEVCEe8
- + -MzV6Nb5dn4g7Zi90x0W
- + -MzV6NffJxkLcBj2jLhT
- + -MzV6NkAvKbeY4YGGYeU
- + -MzV6Nol_b4WnEruh33s
- + -MzV6NtZhHC6leakj2Hz
- + -MzV6NxzQG4NvLVjlLJq
- + -MzV6O1Pp3xbZv8NlkzH
- + -MzV6O5t4HqBiedUTuYz
- + -MzV6OAk5lXwC6C8Wwllw
- + -MzV6OF7V2TnYMQAq1ba
- + -MzV6OJi7Lwff6sH9Z7Q

Conclusion:

In this experiment we:

1. Implemented Firebase realtime database as a cloud database.

2. Created a project on the firebase console and added it into our application.
3. Established connection with firebase cloud service.
4. Performed CRUD operations on the firebase realtime database.

After performing the experiment, I realised that the cloud database is more reliable than offline databases. Cloud databases are available at any point of time anywhere in the world to anyone with credentials.