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import mysql.connector

def processUpdate (data):
    """ Recieves Data , which is a dictionary, with all the fields received in
    the json. The API Endpoint
    should have validated the data (not null checks, format, types). This method
    will be called to insert
    or update accoun holder info in our db (MySQL). It will validate that all
    the needed feilds are present."""
    expected_net = {'event_date', 'account_standing', 'account_id',
'account_information'}
    expected_account = {'email_address', 'address', 'last_name',
'date_of_birth', 'first_name'}
    expected_address = {'city', 'street_name', 'street_number', 'state',
'zip_code'}
    unit_no = None
    if (expected_net - set(data.keys())) != set() or (expected_account -
set(data['account_information'].keys())) != set() or (expected_address -
set(data['account_information']['address'].keys())) != set():
        raise ValueError("Data was not complete. Request Denied.")
    # Unit Number is not always provided, and is thus handled specifically.

    if ('unit_number' not in data['account_information']['address'].keys()):
        unit_no = "N/A"
    else:
        unit_no = data['account_information']['address']['unit_number']
    mydb = mysql.connector.connect(host = "localhost",      user = "root",
password = "root",      database = "world")
    cursor = mydb.cursor()
    cursor.execute("SELECT * FROM WORLD.CUSTOMER_DETAILS WHERE ACCOUNT_ID = " +
str(data['account_id']))
    try:
        res = cursor.fetchall()
        qur = "INSERT INTO WORLD.CUSTOMER_DETAILS VALUES(" + \
str(data['account_id']) + \
", "+ \
str_to_date("'" + str(data['event_date']) + "', '%Y-%m-%d')") + \
", '" + \
str(data['account_standing']) + \
", '" + \
str(data['account_information']['first_name']) + \
", '" + \
str(data['account_information']['last_name']) + \
", "+ \
str_to_date("'" + str(data['account_information']['date_of_birth']) +
"', '%Y-%m-%d')") + \
", '" + \
str(data['account_information']['address']['street_number']) + \
", '" + \
str(data['account_information']['address']['street_name']) + \

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        "',' + \
        str(data['account_information']['address']['city']) + \
        "',' + \
        str(data['account_information']['address']['state']) + \
        "',' + \
        str(data['account_information']['address']['zip_code']) + \
        "',' + \
        str(data['account_information']['email_address']) + \
        "',' + \
        str(unit_no) + \
        ''')
    if len(res) is 0:
        cursor.execute(qur)
    else:
        cursor.execute("DELETE FROM WORLD.CUSTOMER_DETAILS WHERE
ACCOUNT_ID = " + str(data['account_id']))
        cursor.execute(qur)
        #insert
        mydb.commit()
        return "SUCCESS"
except Exception as e:
    print(e)
    return "ERROR OCCURRED" + e;

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if __name__ == '__main__':
    #New Record
    data1 = {"account_id" : 1454581, "event_date": "2018-01-09",
"account_standing": "B", \
    "account_information": {"first_name": "Jane", "last_name": "Smith",
"date_of_birth": "1975-09-09", \
    "address": {"street_number": "345", "street_name": "Oak Drive",
"unit_number": "12A", "city": \
    "Mount Pleasant", "state": "CA", "zip_code": "90010"}, "email_address":
"jane_smith@yahoo.com"} }
    processUpdate (data1)
    print("#data1")

    #New Record
    data3 = {"account_id" : 1121345, "event_date": "2018-01-09",
"account_standing": "B", \
    "account_information": {"first_name": "Jane2", "last_name": "Smith2",
"date_of_birth": "1975-09-09", \
    "address": {"street_number": "345", "street_name": "Oak Drive",
"unit_number": "12A", "city": \
    "Mount Pleasant", "state": "CA", "zip_code": "90010"}, "email_address":
"jane2_smith@yahoo.com"} }

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processUpdate (data3)
print("#data2")

#Update Record
data2 = {"account_id" : 1121345, "event_date": "2017-08-24",
"account_standing": "G", \
"account_information": {"first_name": "John", "last_name": "Doe",
"date_of_birth": "1986-08-18",\
"address": {"street_number": "123", "street_name": "Main Street", "city":
"Centerville", "state":\
"CA", "zip_code": "91111"}, "email_address": "john_doe@gmail.com"} }
processUpdate (data2)
print("#data3")

# Fail 1 No Email provided
try:
    data5 = {"account_id" : 1121345, "event_date": "2018-01-09",
"account_standing": "B", \
"account_information": {"first_name": "Jane2", "last_name":
"Smith2", "date_of_birth": "1975-09-09", \
"address": {"street_number": "345", "street_name": "Oak Drive",
"unit_number": "12A", "city": \
"Mount Pleasant", "state": "CA", "zip_code": "90010"}} }
    processUpdate (data5)
except:
    print("# Fail 1 No Email provided passed")
    pass

#Fail 2 Email not unique
try:
    data6 = {"account_id" : 1126795, "event_date": "2017-08-24",
"account_standing": "G", "account_information": {"first_name": "John", "last_name":
"Doe", "date_of_birth": "1986-08-18", "address": {"street_number": "123",
"street_name": "Main Street", "city": "Centerville", "state": "CA", "zip_code":
"91111"}, "email_address": "john_doe@gmail.com"} }
    processUpdate (data6)
except:
    print("# Fail 2 No Email provided passed")
    pass

#Fail 3 DoB format incorrect
try:
    data7 = {"account_id" : 1561345, "event_date": "2017-08-24",
"account_standing": "G", "account_information": {"first_name": "John", "last_name":
"Doe", "date_of_birth": "8682388", "address": {"street_number": "123",
"street_name": "Main Street", "city": "Centerville", "state": "CA", "zip_code":
"91111"}, "email_address": "john_doe@gmail.com"} }
    processUpdate (data7)
except:

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print("# Fail 3 No Email provided passed")  
pass
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