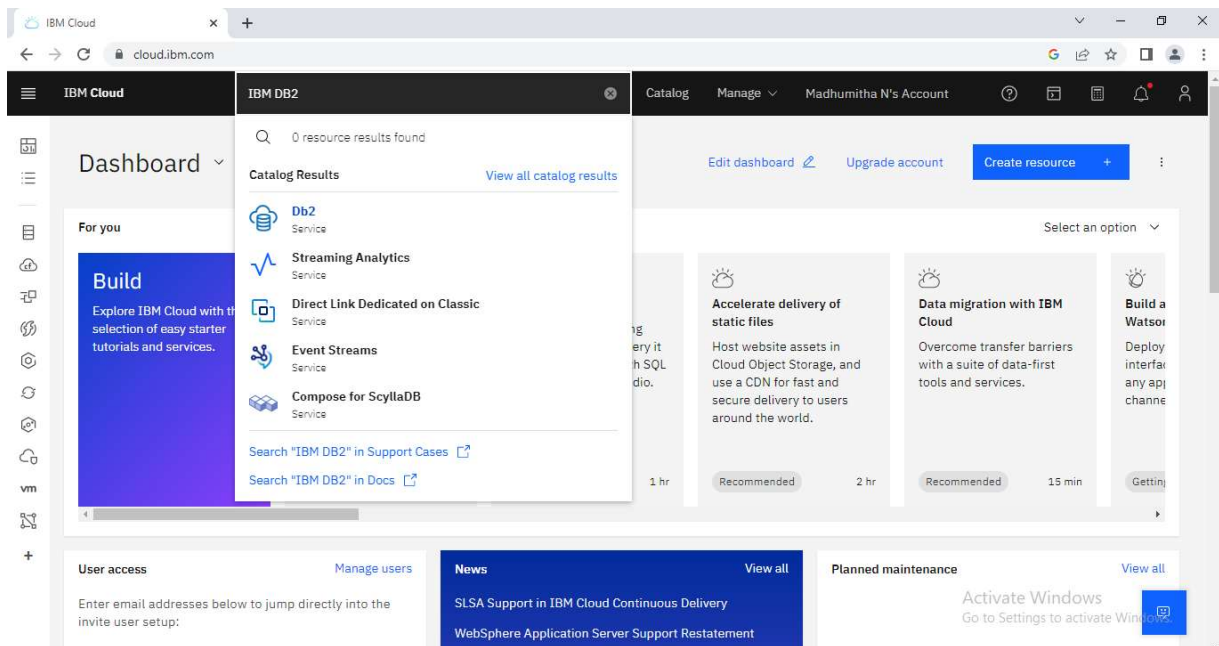


Create IBM DB2 & Connect with Python

Team ID	PNT2022TMID48233
Project Name	PERSONAL EXPENSE TRACKER
Date	17-10-2022

Step 1: Login to your IBM Cloud Account and search for “IBM DB2” in the Catalog section.



Step 2: Creating IBM DB2

The screenshot shows the IBM Cloud 'Db2' service page. The main heading is 'Db2' with a sub-description: 'A fully managed, highly-performant relational data store running the enterprise-class Db2 database engine.' Below this are 'Create' and 'About' tabs. The 'Create' tab is active, showing a 'Select a location' dropdown set to 'London (eu-gb)' and a 'Select a pricing plan' section. The pricing plan table shows the 'Lite' plan with 200 MB of data storage, 5 simultaneous connections, and a shared multitenant system, all for free. A 'Create' button is visible at the bottom right. The right sidebar shows a 'Summary' section with details: Location: London, Plan: Lite, Service name: Db2-ms, and Resource group: Default. There is also a checkbox for 'I have read and agree to the following license agreements:' and a 'Create' button.

IBM Cloud

Search resources and products...

Catalog Manage Sakthi Sri M K's Account

Db2

A fully managed, highly-performant relational data store running the enterprise-class Db2 database engine.

Create About

Type Service

Provider IBM

Location London (eu-gb)

Last updated 11/10/2022

Category Databases

Compliance EU Supported HIPAA Enabled IAM-enabled

Location Sydney Frankfurt London

Select a pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or location: [India](#)

Plan	Features	Pricing
Lite	200 MB of data storage 5 simultaneous connections Shared multitenant system	Free

The Free plan provides a free Db2 service for development and evaluation. The plan has a set amount of

Summary

Db2 Free

Location: London

Plan: Lite

Service name: Db2-ms

Resource group: Default

☒ I have read and agree to the following license agreements: [Terms](#)

Create

Activate Windows

Go to Settings to activate Windows.

Step 3: IBM DB2 created successfully

The screenshot shows the IBM Cloud 'Resource list' page. The main heading is 'Resource list' with a 'Create resource' button. Below this is a table with columns: Name, Group, Location, Product, Status, and Tags. The table lists several resources, including 'Cloud Object Storage-hk', 'Watson Assistant-9x', and 'Db2-ms'. The 'Db2-ms' resource is highlighted, showing it is 'Active' and located in 'London'. The right sidebar shows a 'Summary' section with details: Location: London, Plan: Lite, Service name: Db2-ms, and Resource group: Default. There is also a checkbox for 'I have read and agree to the following license agreements:' and a 'Create' button.

IBM Cloud

Search resources and products...

Catalog Manage Sakthi Sri M K's Account

Resource list

Create resource +

Name	Group	Location	Product	Status	Tags
Cloud Object Storage-hk	Default	Global	Cloud Object Storage	Active	—
Watson Assistant-9x	Default	Sydney	Watson Assistant	Active	—
Db2-ms	Default	London	Db2	Active	—

Activate Windows

Go to Settings to activate Windows.

Step 4: Db2-ms is created

The screenshot shows the IBM Cloud Service Details page for a resource named 'Db2-ms'. The page is divided into a left sidebar and a main content area. The sidebar has a 'Manage' section with links for 'Getting started', 'Service credentials', and 'Connections'. The main content area has a 'Getting started' section with instructions on how to find credentials and a 'Need help?' section with a 'Support case' button. The status of the resource is 'Active'.

Service Details - IBM Cloud

cloud.ibm.com/services/dashdb-for-transactions/cm%3Av1%3Abluemix%3Apublic%3Adashdb-for-transactions%3Aeu-gb%3Aa%2F9872b9511d8043b88a6489892...

IBM Cloud

Search resources and products...

Resource list /

Db2-ms Active Add tags

Details Actions...

Manage

Getting started

Service credentials

Connections

Getting started

Where can I find my credentials?

Get your username and password by clicking the "Service Credentials" link to the left and selecting "New Credentials". Don't see this menu on the left? Click on "Manage in IBM Cloud" to open the IBM Cloud dashboard.

Go to UI

Getting started docs

Need help?

Submit a IBM Cloud Support Case to our team.

Support case

Activate Windows

Go to Settings to activate Windows

Step 5: Navigate to Service Credentials

The screenshot shows the IBM Cloud Service Details page for a resource named 'Db2-ms', specifically the 'Service credentials' section. The left sidebar now highlights 'Service credentials'. The main content area shows a 'Service credentials' section with a description and a 'Learn more' link. Below this is a table with columns 'Key name' and 'Date created', but it is empty. A 'New credential' button is visible in the top right of the table area. The status of the resource is 'Active'.

Service Details - IBM Cloud

cloud.ibm.com/services/dashdb-for-transactions/cm%3Av1%3Abluemix%3Apublic%3Adashdb-for-transactions%3Aeu-gb%3Aa%2F9872b9511d8043b88a6489892...

IBM Cloud

Search resources and products...

Resource list /

Db2-ms Active Add tags

Details Actions...

Manage

Getting started

Service credentials

Connections

Service credentials

You can generate a new set of credentials for cases where you want to manually connect an app or external consumer to an IBM Cloud service. [Learn more](#)

Search credentials...

New credential

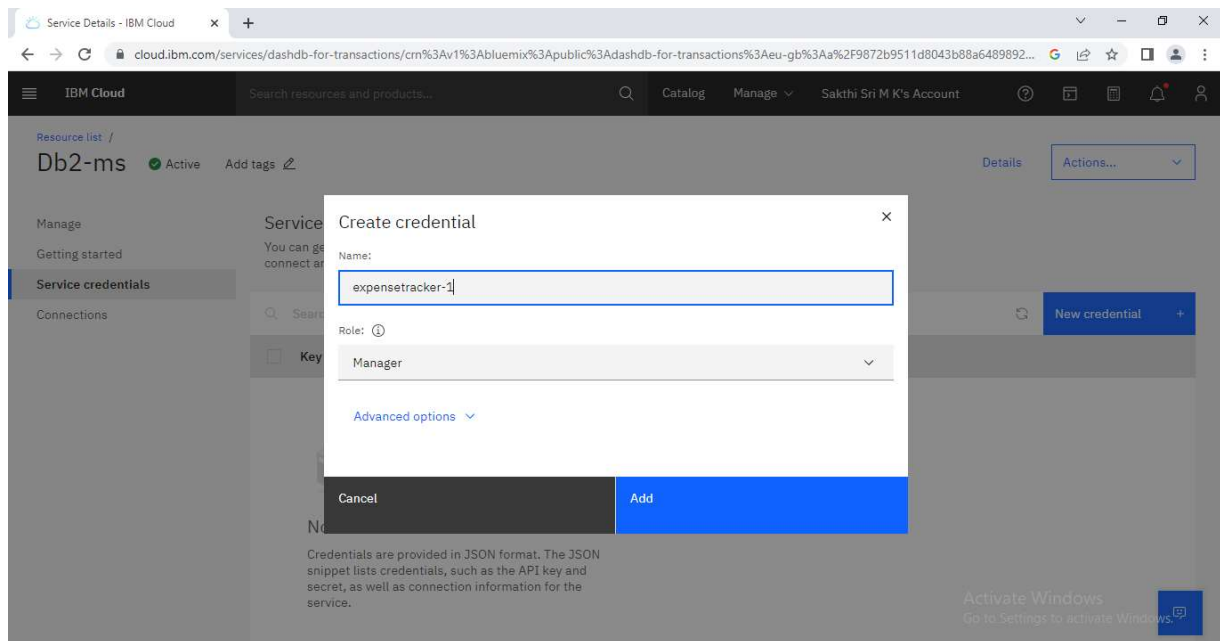
Key name	Date created
No service credentials	

Credentials are provided in JSON format. The JSON snippet lists credentials, such as the API key and secret, as well as connection information for the service.

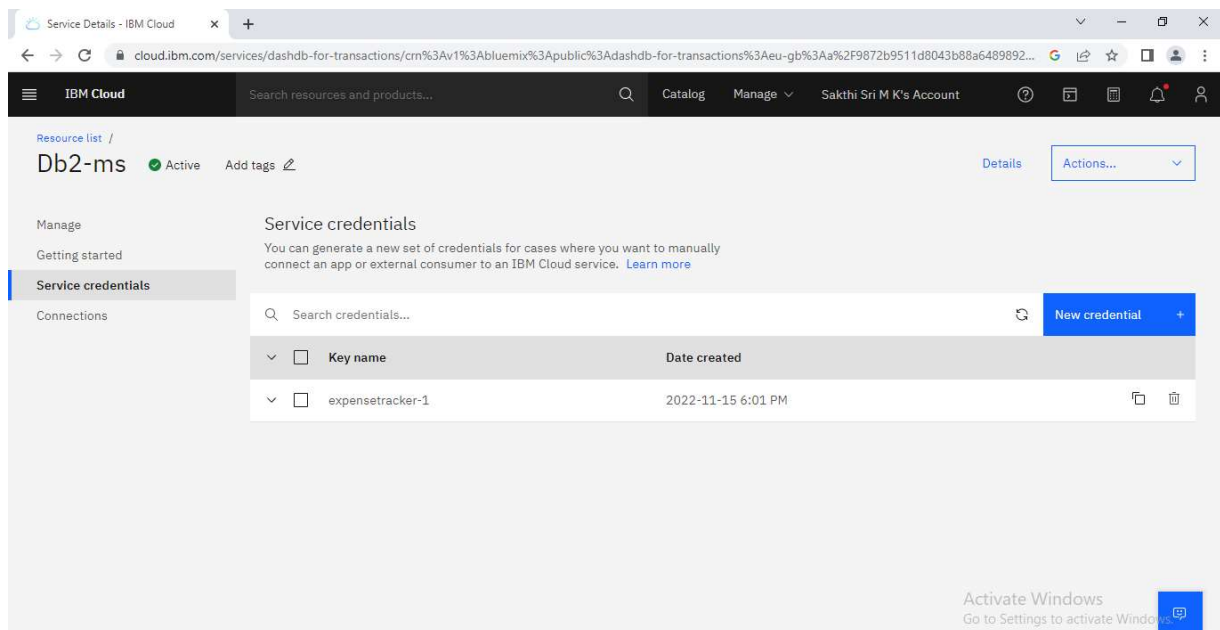
Activate Windows

Go to Settings to activate Windows

Step 6: Creating “expensetracker01” credential in the Db2-ms



Step 7: “expensetracker01” is created



Step 8: Import the ibm_db Python library:

```
!pip install --force-reinstall ibm_db==3.1.0 ibm_db_sa==0.3.7 import  
ibm_db
```

Step 9: Identify the database connection credentials:

```
dsn_hostname = "2d46b6b4-cbf6-40eb-bbce-  
6251e6ba0300.bs2io90108kqb10d8icg.databases.appdomain.cloud"
```

```
dsn_uid = "cmm81287"
```

```
dsn_pwd = "Os47OPOfg4C4Yird"
```

```
dsn_driver = "{IBM DB2 ODBC DRIVER}"
```

```
dsn_database = "BLUDB" # e.g. "BLUDB"
```

```
dsn_port = "32328"
```

```
dsn_security = "SSL" #i.e. "SSL"
```

Step 10: Create the DB2 database connection:

```
dsn = (  
    "DRIVER={0};"  
    "DATABASE={1};"  
    "HOSTNAME={2};"  
    "PORT={3};"  
    "PROTOCOL={4};"  
    "UID={5};"  
    "PWD={6};"  
    "SECURITY={7};"  
).format(dsn_driver, dsn_database, dsn_hostname, dsn_port, dsn_protocol,  
    dsn_uid, dsn_pwd,dsn_security)  
print(dsn)
```

Now establish the connection to the database

try:

```
conn = ibm_db.connect(dsn, "", "")

print ("Connected to database: ", dsn_database, "as user: ", dsn_uid, "on
host: ", dsn_hostname)
```

except:

```
print ("Unable to connect: ", ibm_db.conn_errormsg() )

server = ibm_db.server_info(conn)

print ("DBMS_NAME: ", server.DBMS_NAME)

print ("DBMS_VER: ", server.DBMS_VER)

print ("DB_NAME: ", server.DB_NAME)

client = ibm_db.client_info(conn)

print ("DRIVER_NAME: ", client.DRIVER_NAME)

print ("DRIVER_VER: ", client.DRIVER_VER)

print ("DATA_SOURCE_NAME: ", client.DATA_SOURCE_NAME)

print ("DRIVER_ODBC_VER: ", client.DRIVER_ODBC_VER)

print ("ODBC_VER: ", client.ODBC_VER)

print ("ODBC_SQL_CONFORMANCE: ",
client.ODBC_SQL_CONFORMANCE)

print ("APPL_CODEPAGE: ", client.APPL_CODEPAGE)

print ("CONN_CODEPAGE: ", client.CONN_CODEPAGE)
```

Step 11: Close the Connection:

```
ibm_db.close(conn)
```

Step 12:

```
1  from flask import Flask
2
3  import ibm_db
4  conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=2d46b6b4-cbf6-40eb-bbce-6251e6ba0300.bs2io90l08kqb1od8lcg.
databases.appdomain.cloud;PORT=32328;SECURITY=SSL;SSLServerCertified=DigiCertGlobalRootCA.crt;UID=cmm81287;
PWD=0s470P0fg4C4Yird",'','')
5  print(conn)
6  print("Connection Succesful.....")
7
8
9  app = Flask(__name__)
10
11 @app.route('/')
12 def index():
13     return "<center><h1>DB Connected Successfully....</h1></center>"
```

Step 13: Database connected successfully

