

IBM Cloud - Machine Learning model deployment and user data integration

In this document, we deployed our created machine learning model of Parkinson's Disease into IBM Watson Machine Learning workspace of the cloud. And the user's data has been linked into IBM db2 database service from the react presentation of application

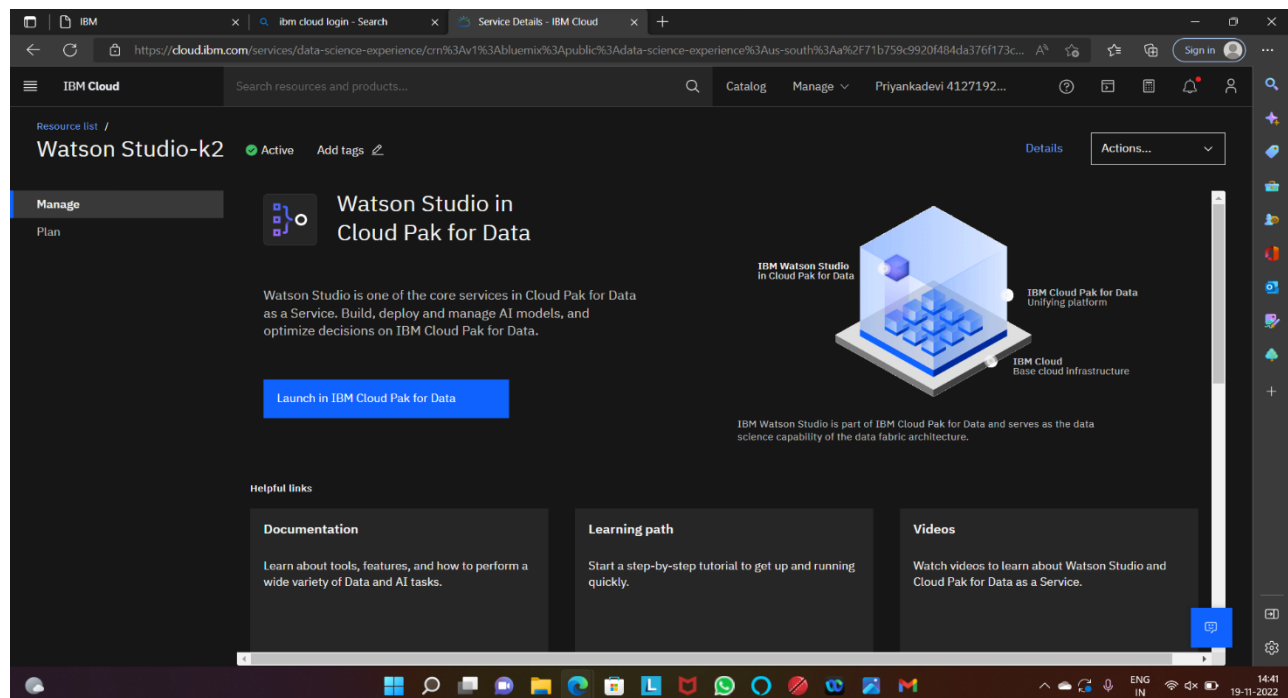
Project Name : Detecting Parkinson's Disease using Machine Learning

Cloud service used : IBM Cloud Console

The cloud operations has been represented below:

Machine Learning model registration and deployment initiation process:

Operation 1)



Operation 2)

IBM Watson Studio

Search in your workspaces

Buy

Priyankadevi 4127192050...

Dallas

P4

New project

Define details

Name

Detecting Parkinson's Disease using Machine learning

Description

drawings alone instead of measuring the speed and pressure of the pen on paper. Our goal is to quantify the visual appearance (using HOG method) of these drawings and then train a machine learning model to classify them. In this project, We are using, Histogram of Oriented Gradients (HOG) image descriptor along with a Random Forest classifier to automatically detect Parkinson's disease in hand-drawn images of spirals and waves

Choose project options

☐ Restrict who can be a collaborator ⓘ

☐ Mark as sensitive ⓘ

Project includes integration with [Cloud Object Storage](#) for storing project assets.

Storage

Cloud Object Storage-xn

Cancel

Create

Operation 3)

IBM Watson Studio

Search in your workspaces

Buy

Priyankadevi 4127192050...

Dallas

P4

New project

Cancel

Creating...

Operation 4)

Create a deployment space

Use a space to collect assets in one place to create, run, and manage deployments.

Define space details

Name

PROD

Description (Optional)

Deployment space description

Deployment space tags (optional)

Start typing tag name, click + to create new tag

Select storage service

Define space assets (optional)

Populate your space with assets exported from a space to a .zip file. You can add more assets after the space is created.

Drop .zip file or browse your files to upload

The space is ready

Import is completed! Click **View new space** to view the space and associated assets.

Step 1 of 1. Creating deployment space.

Close

View new space

Operation 5)

IBM Cloud

Search resources and products...

Catalog Manage Kamallesh S's Account

IAM

Manage identities

Users

Trusted profiles

Service IDs

API keys

Identity providers

Manage access

Access groups

Authorizations

Roles

Gain insight

Inactive identities

Inactive policies

API keys

Create, view, and work with API keys that you have access to manage. IBM Cloud API keys are associated with a user's identity and can be used to access cloud platform and classic infrastructure APIs, depending on the access that is assigned to the user. The following table displays a list of API keys created in this account. [Learn more.](#)

Looking for more...

View: My IBM

API keys associated with...

Status
.....

Items per page

API key successfully created

Copy the API key or click download to save it. You won't be able to see this API key again, so you can't retrieve it later. The API key is no longer displayed after 115 seconds.

API key

.....

Copy Download

Bring them securely in your own dedicated instance.

For an API key, assign or remove access for the user.

Create +

Date Created
2022-11-16 14:11 GMT

Page 1

Operation 6)

```
# Set meta
deployment_props = {
    wml_client.deployments.ConfigurationMetaNames.NAME: DEPLOYMENT_NAME,
    wml_client.deployments.ConfigurationMetaNames.ONLINE: {}
}

# Deploy
deployment = wml_client.deployments.create(
    artifact_uid=model_uid,
    meta_props=deployment_props
)

# Output result
deployment
```

```
#####

Synchronous deployment creation for uid: '6717965d-bf1b-492f-9374-b9791915c168' started

#####

initializing
ready

-----
Successfully finished deployment creation, deployment_uid='01c279a5-21aa-41a2-92ae-5cfac2ad5d59'
-----
```

Operation 7)

Deployments / PROD

PROD

Assets

Deployments

Jobs

Access control

Settings

What deployments are you looking for?

Deployments (1)

Name	Type	Status	Asset
Sklearn Deployment	Online	Deployed	Sklearn Forecast

User data integration from react to the IBM DB2 service:

Operations:

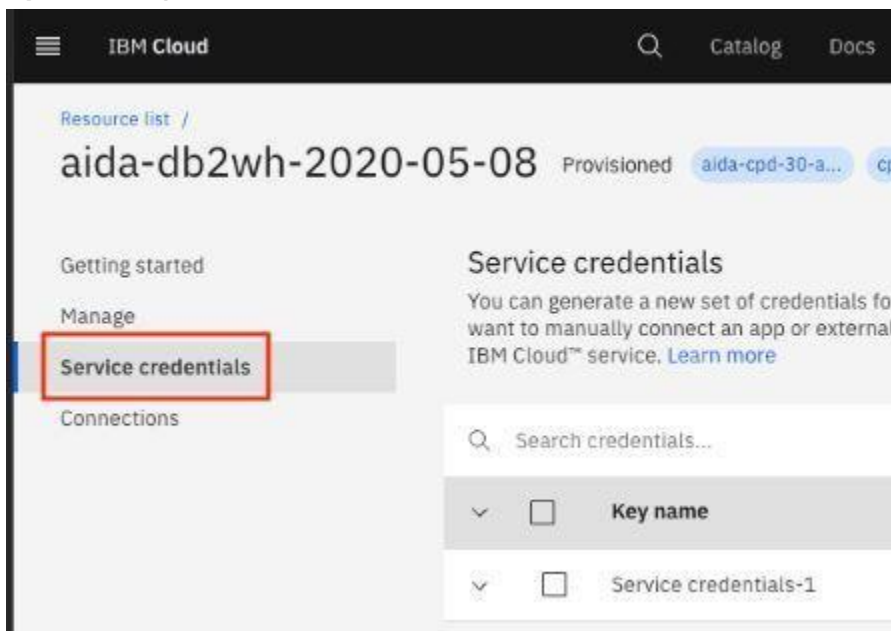
Operation 1)

The screenshot shows the IBM Cloud console interface for configuring a Db2 instance. The top navigation bar includes the IBM Cloud logo, a search bar, and links to Catalog, Manage, and the user's account (Kamalesh S's Account). The main content area is titled "Configure your resource" and features a "Service name" field with the value "Parkinson_Disease_user_Db2-59". Below this, there are "Tags" and "Access management tags" sections. The "Tags" section has a dropdown menu with "user:database" selected. The "Access management tags" section has a text input field with the value "Examples: access:dev, proj:version-1". On the right side, a "Summary" panel displays the instance details: "Db2", "Location: Dallas", "Plan: Lite", "Service name: Parkinson_Disease_user_Db2-59", and "Resource group: Default".

Operation 2)

```
JS IBM db2_userdata-Node.js
C: > Users > Kamalesh S > OneDrive > Desktop 1 > IBM Nalaiyathiran > Project Development Phase > Sprint 4 > IBM Cloud deployment > JS IBM db2_userdata-Node.js > [options] > "headers"
1 var http = require("https");
2
3 var options = {
4   "method": "POST",
5   "hostname": "{REST_API_HOSTNAME}",
6   "port": null,
7   "path": "/dbapi/v4/auth/tokens",
8   "headers": {
9     "content-type": "application/Parkinson_MLmodel.sav",
10    "x-deployment-id": "D6717965d-bf1b-492f-9374-b9791915c168",
11    "api-key": "s3nNigNL1Ev3RNdHNux58n0UNRXQdCr4AZyDumYrPwTV"
12  };
13 };
14
15 var req = http.request(options, function (res) {
16   var chunks = [];
17
18   res.on("data", function (chunk) {
19     chunks.push(chunk);
20   });
21
22   res.on("end", function () {
23     var body = Buffer.concat(chunks);
24     console.log(body.toString());
25   });
26 });
```

Operation 3)



Operation 4)

