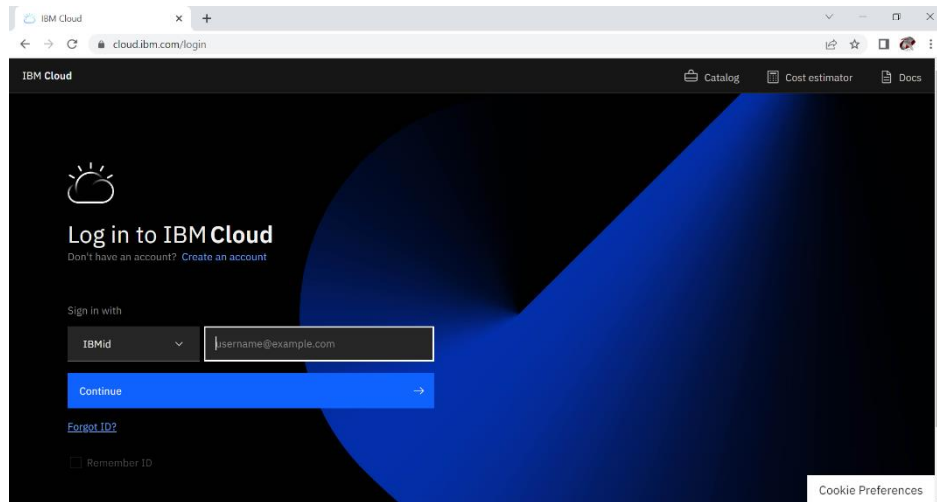
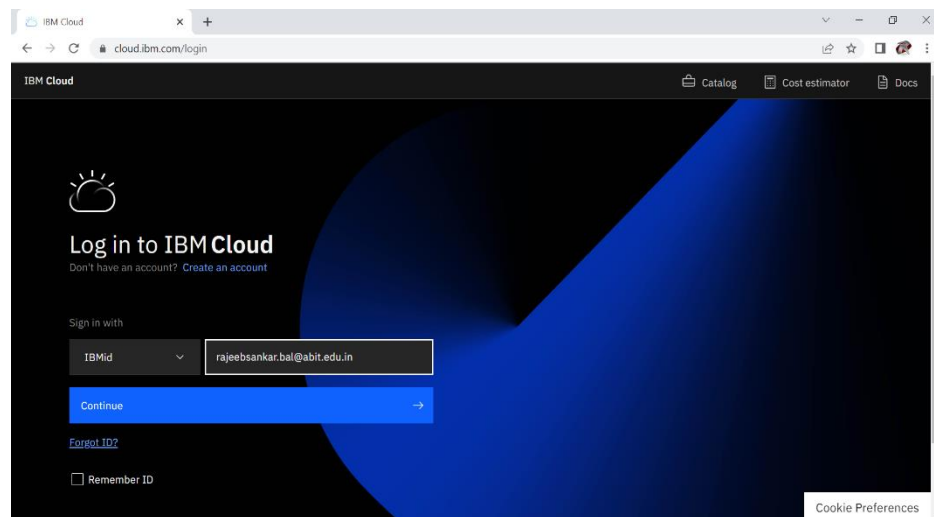


## Login To IBM Cloud Account:

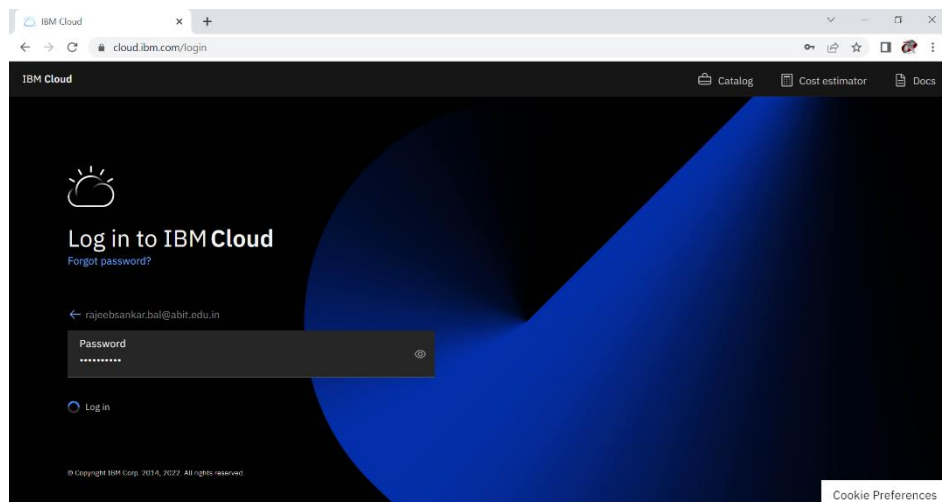
- Open the page as per Link: <https://cloud.ibm.com/>
- Give User Name: xyz@abit.edu.in



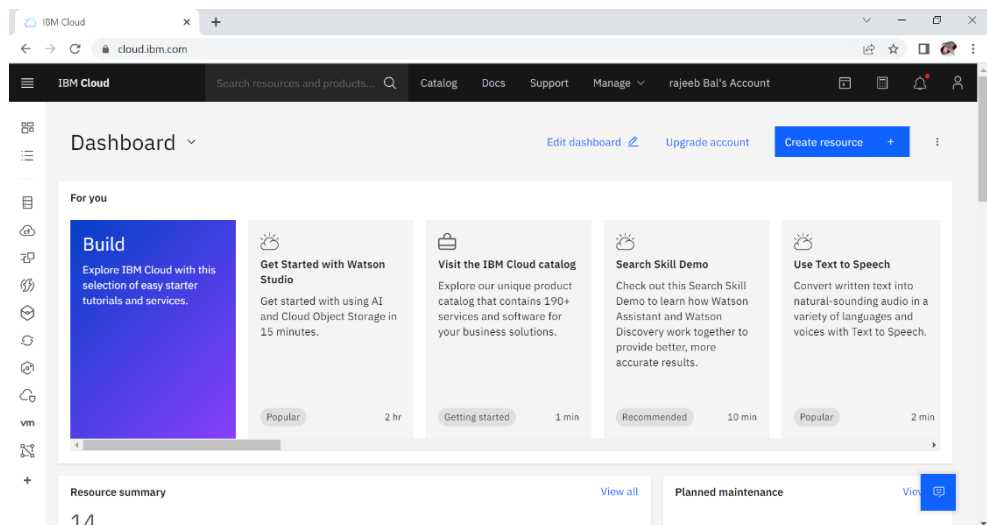
- For Example: Now, User Name: rajeebsankar.bal@abit.edu.in.



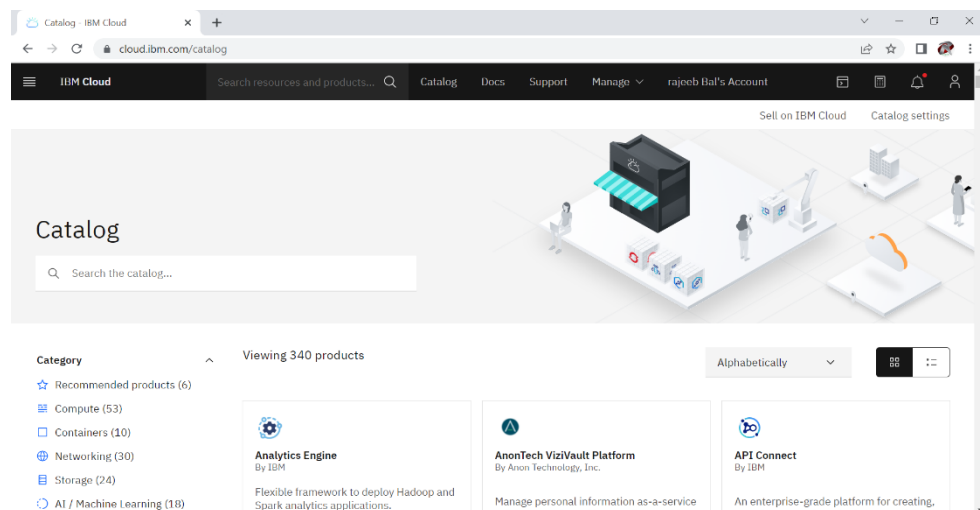
- Now given the Password:xyz@2022.



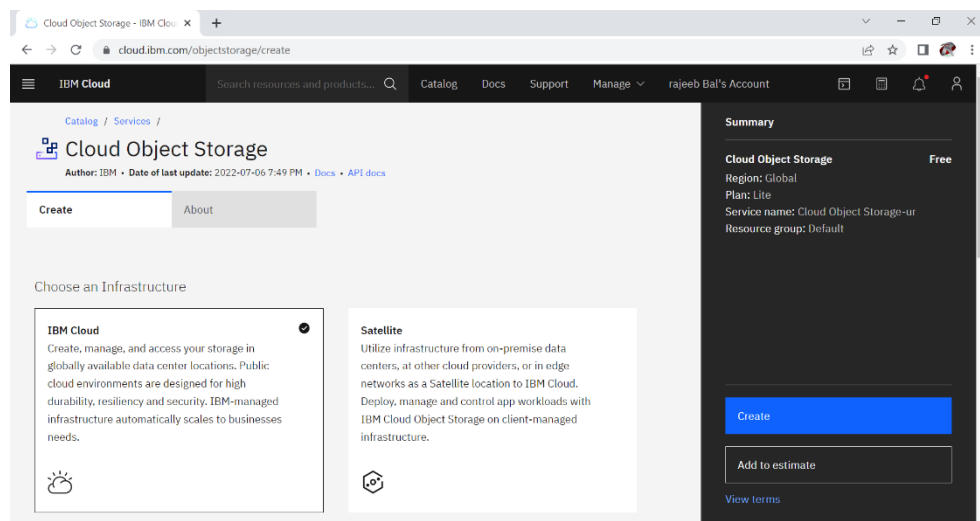
- Dashboard of IBM Cloud.



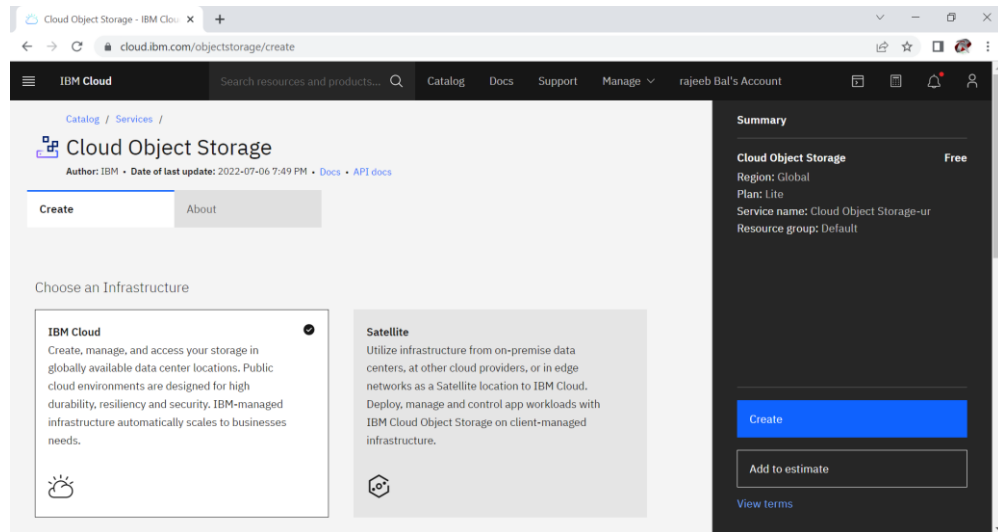
- Click on **Catalog** from Main Menu.



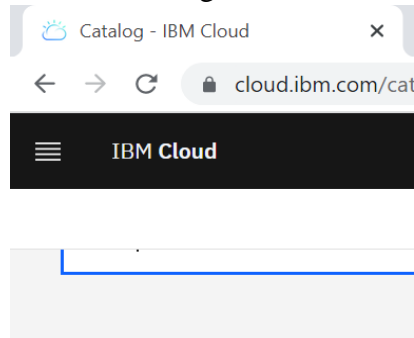
- In the Catalog page, search for **Storage Object**.



- Click on **Create Button**.



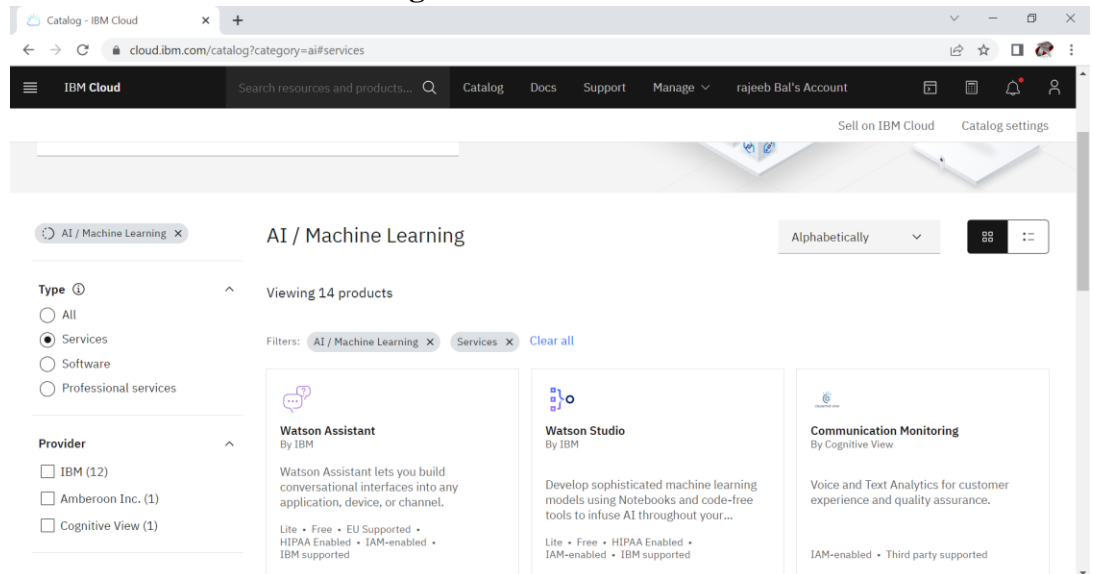
- If you create **Storage Object** no need to create another **Storage Object**.
- Now, Searching for “AI/Meaching Learning” in catalog palate.



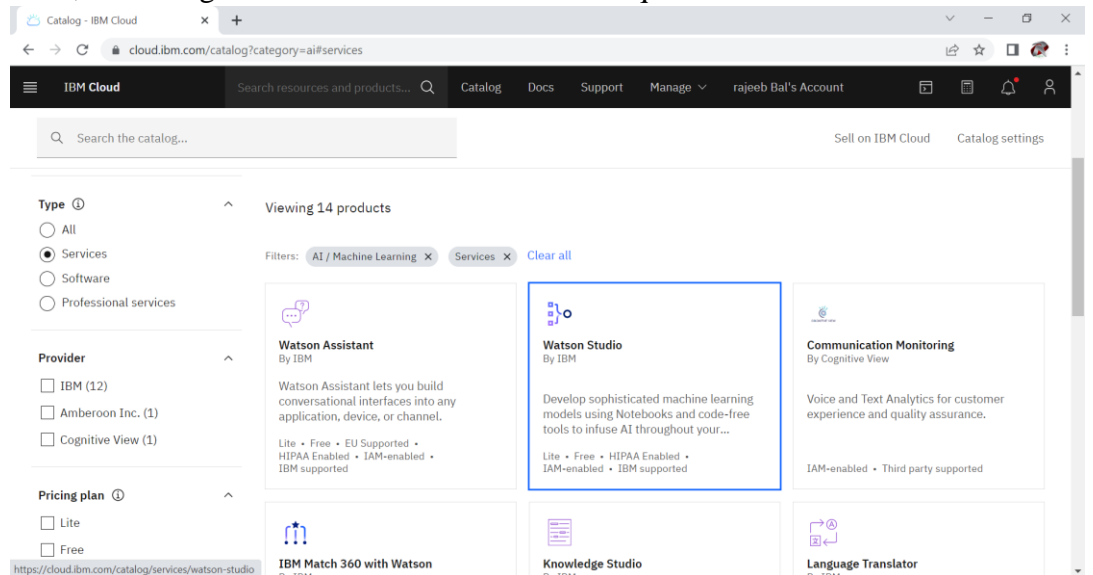
#### Category

- ☆ Recommended products (6)
- ☰ Compute (20)
- ☐ Containers (7)
- 🌐 Networking (25)
- 📁 Storage (14)
- 🧠 AI / Machine Learning (14)
- 📊 Analytics (8)
- 🔗 Blockchain (2)
- 🗄️ Databases (26)
- 🔧 Developer tools (8)
- 📈 Logging and monitoring (3)
- 🔄 Migration (5)

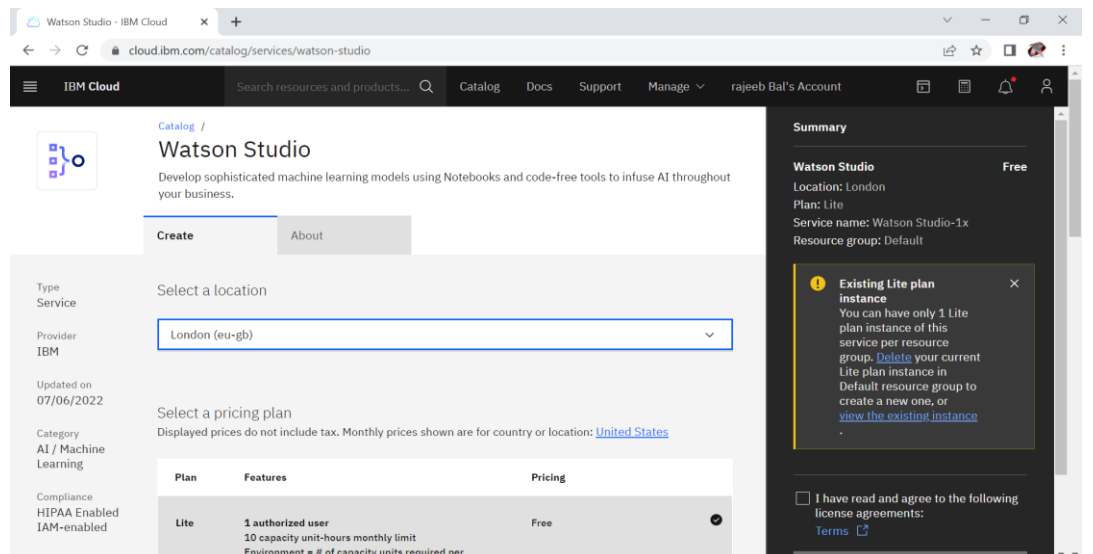
- Click on **AI/Machine Learning**.



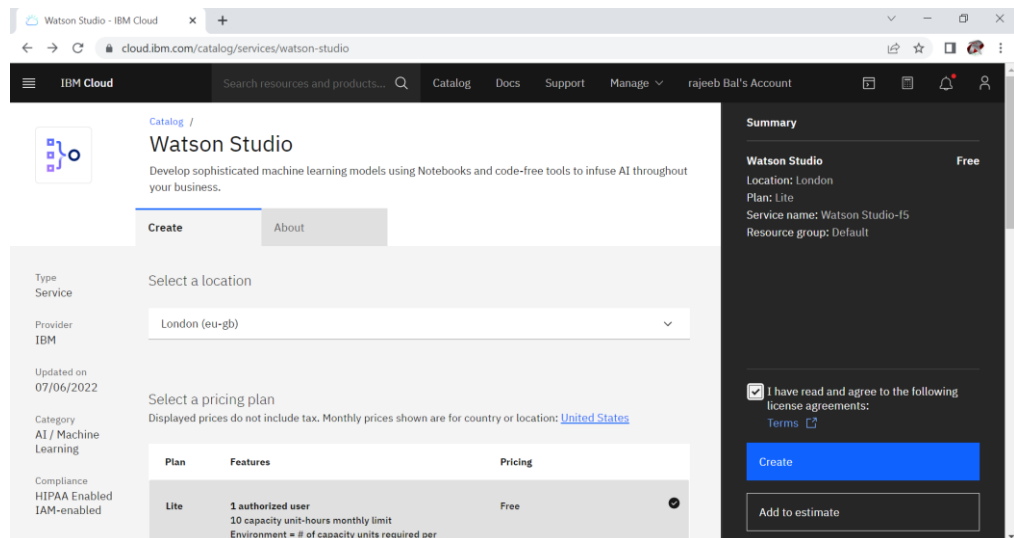
- Now, Searching **Watson Studio** shown in Blue Square Box.



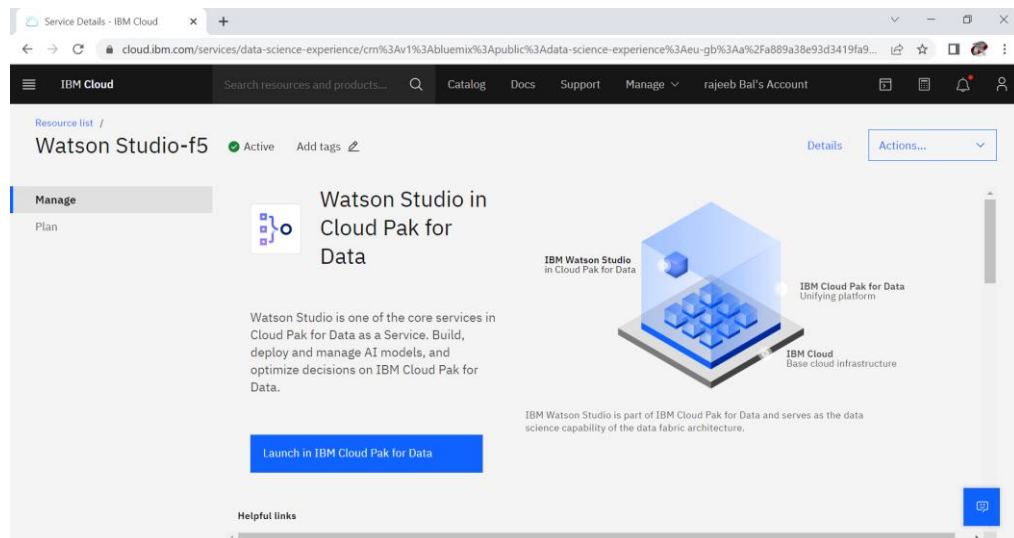
- After click on **Watson Studio**



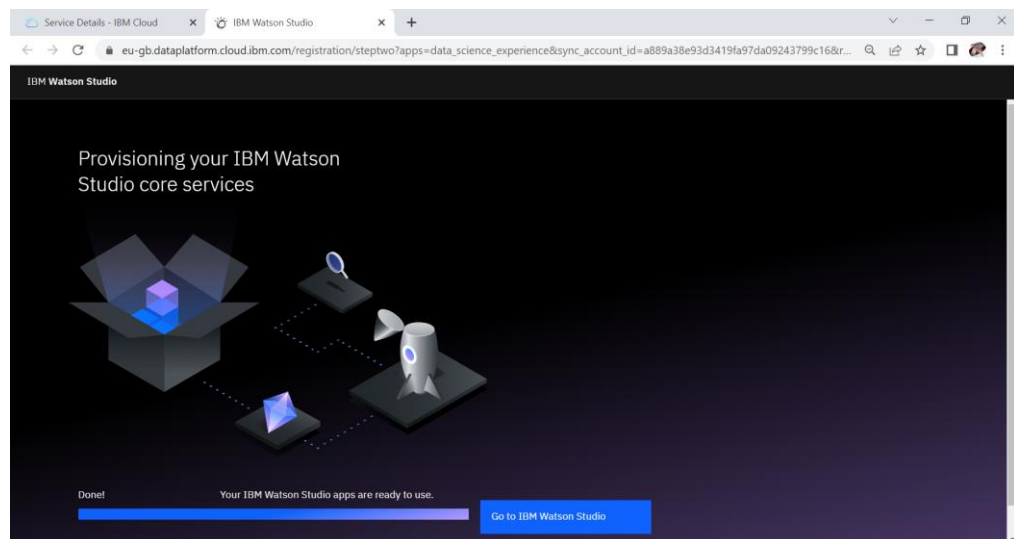
- Click on **Create** Button



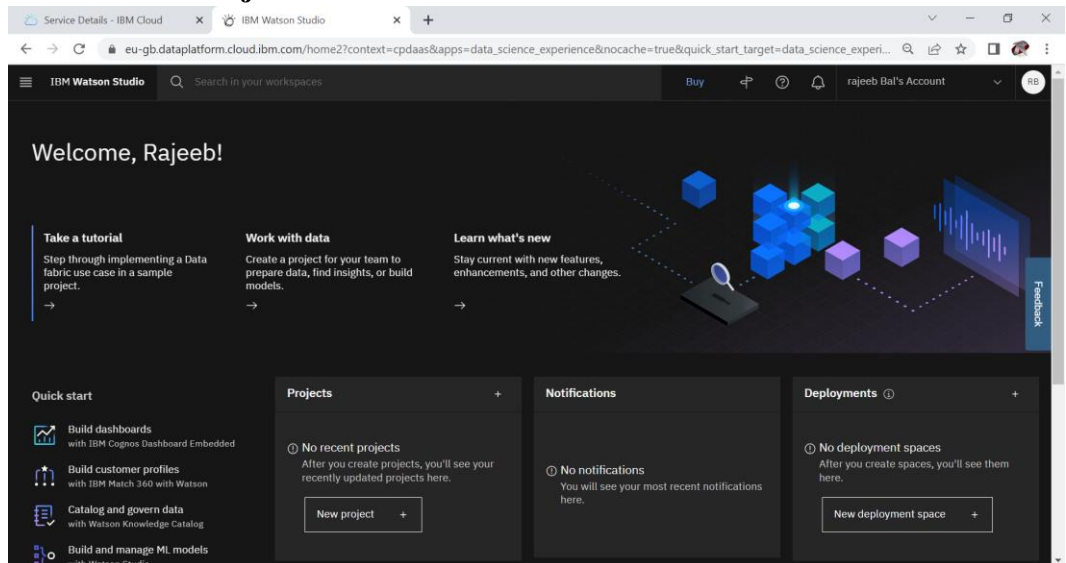
- Click on **Launch Studio in Cloud Pak for Data** Button.



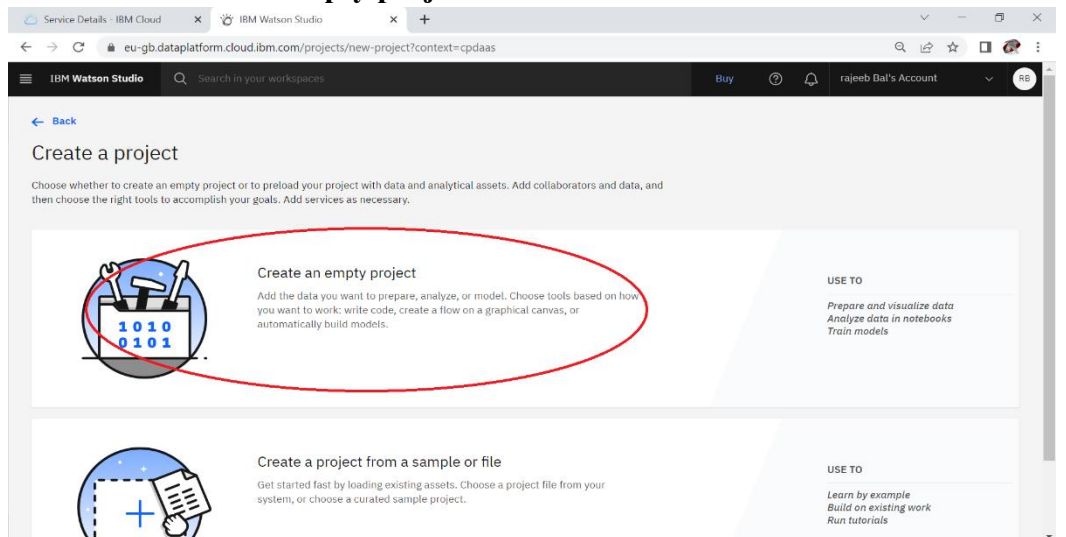
- Click on **Go To IBM Watson Studio** Button.



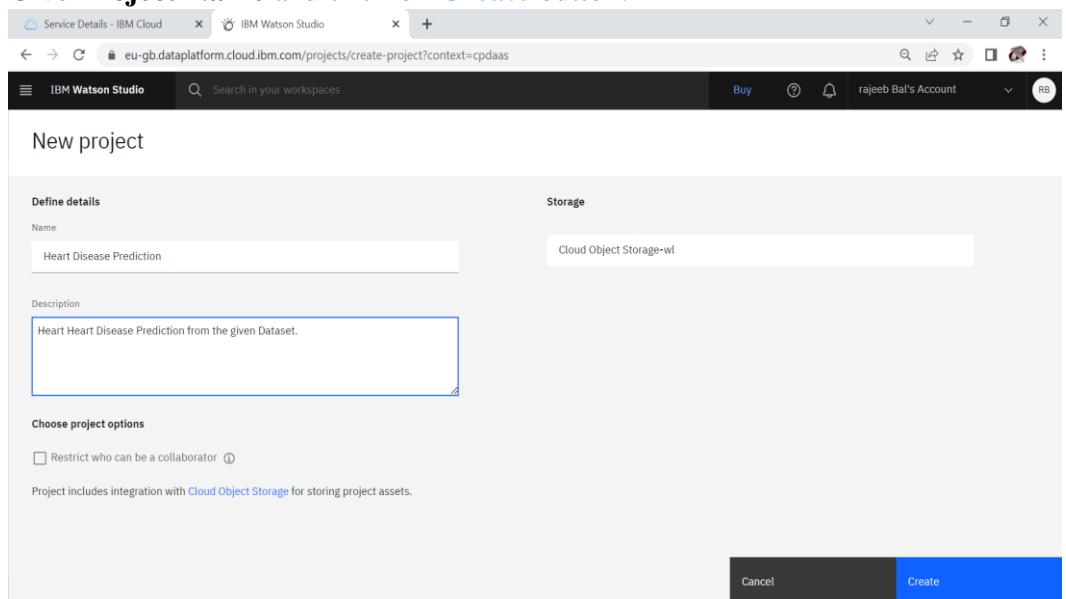
- Click on **New Project Button**.



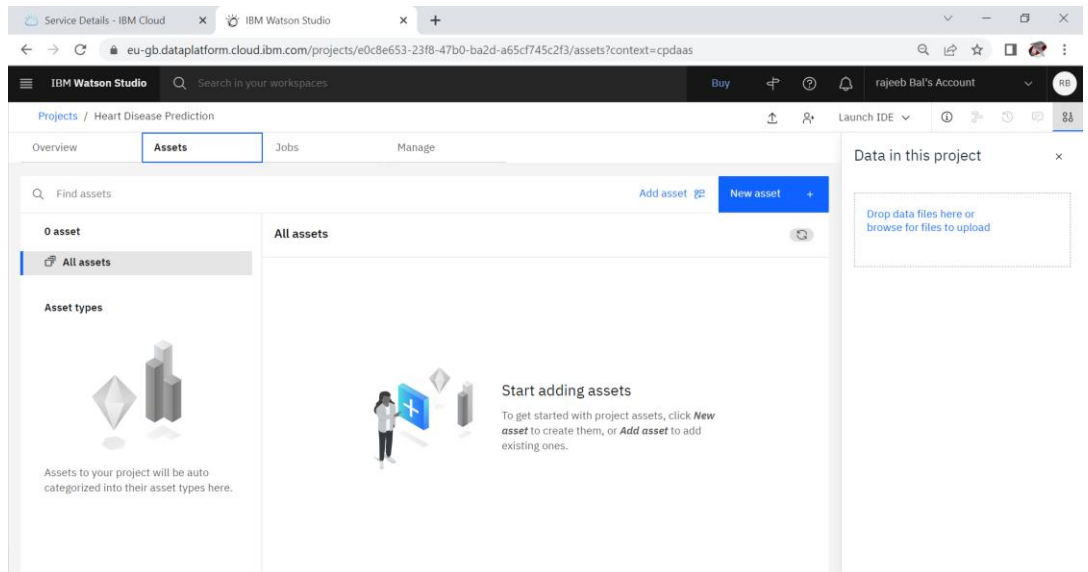
- Click on **“Create an empty project”**.



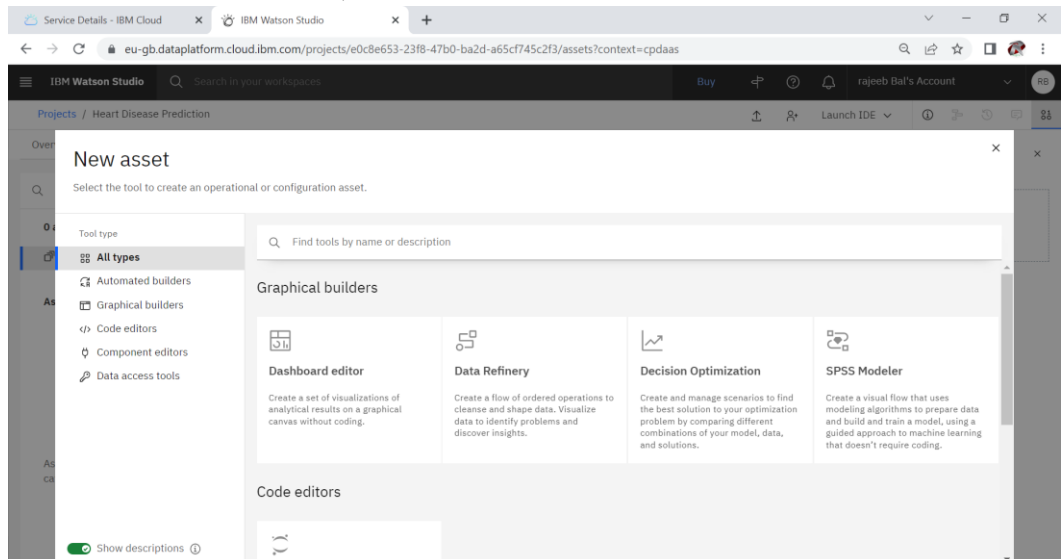
- Give **Project Name** and click on **Create** button.



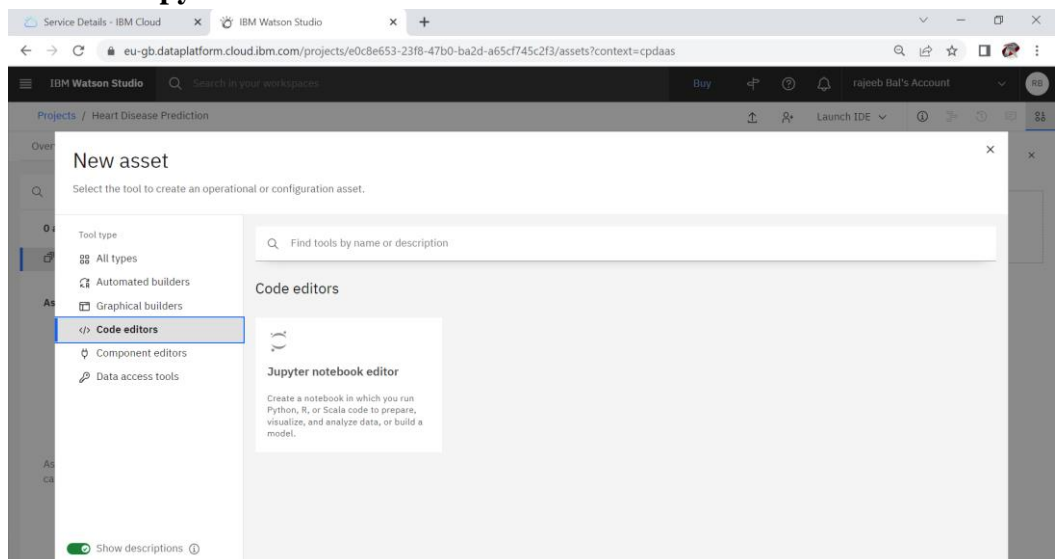
- Click on **Asset** tab and click on **New Asset** button.



After Click on New Asset, Select **Code Editor**.



- Click on **Jupyter Notebook**.



- Now, give the Notebook **name** , **description** and click on **Create** button.

**New notebook**

Blank From file From URL

Name: Heart Disease Prediction

Description (optional): Effective Heart Disease Prediction Using IBM Auto AI Service

Select runtime: IBM Runtime 22.1 on Python 3.9 XS (2 vCPU 8 GB RAM)

The selected runtime has 2 vCPU and 8 GB RAM. It consumes 1 capacity unit per hour. [Learn more](#) about capacity unit hours and Watson Studio pricing plans.

Language: ☒ Python 3.9

Cancel Create

## PROJECT NAME

### Effective Heart Disease Prediction Using IBM Auto AI Service

- All process given in **smartinternz Dashboard** shown as following Figure:01

Name	Group	Location	Product	Status	Tags
Satellite (0)					
Cloud Foundry apps (1)					
Node RED HYISI 2022-07-17	abit_ml / abit_ml	Dallas	Node.js	Started	—
Cloud Foundry services (1)					
node-red-hyisi-2022--cloudan...	abit_ml / abit_ml	Dallas	Cloudant	Provisioned	—
Services and software (4)					
Continuous Delivery	Default	Dallas	Continuous Delivery	Active	—
Machine Learning-rp	Default	London	Machine Learning	Active	1
Watson Studio-kb	Default	London	Watson Studio	Active	—
node-red-hyisi-2022--cloudan...	Default	London	Cloudant	Active	—
Storage (1)					
Network (0)					

Figure: 01



- Deployment of Heart Disease Prediction shown as in following figure : 02.

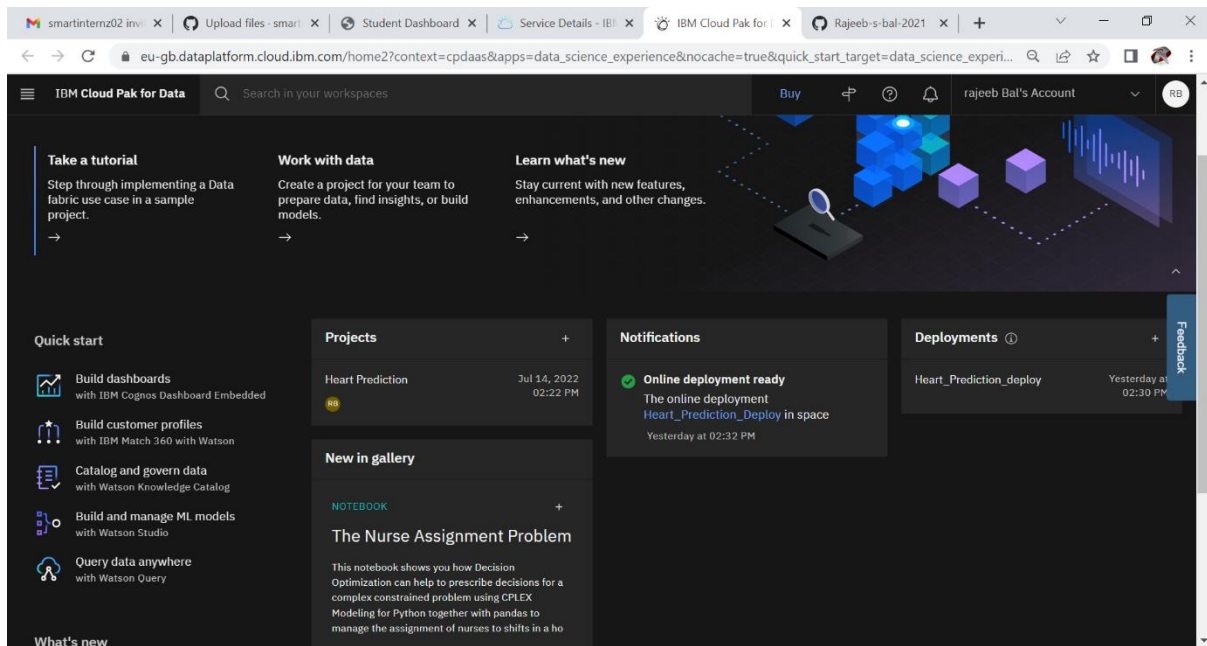


Figure:02

- All the processes of Project shown in figure: 03(a), figure: 03(b) and figure: 03(c).

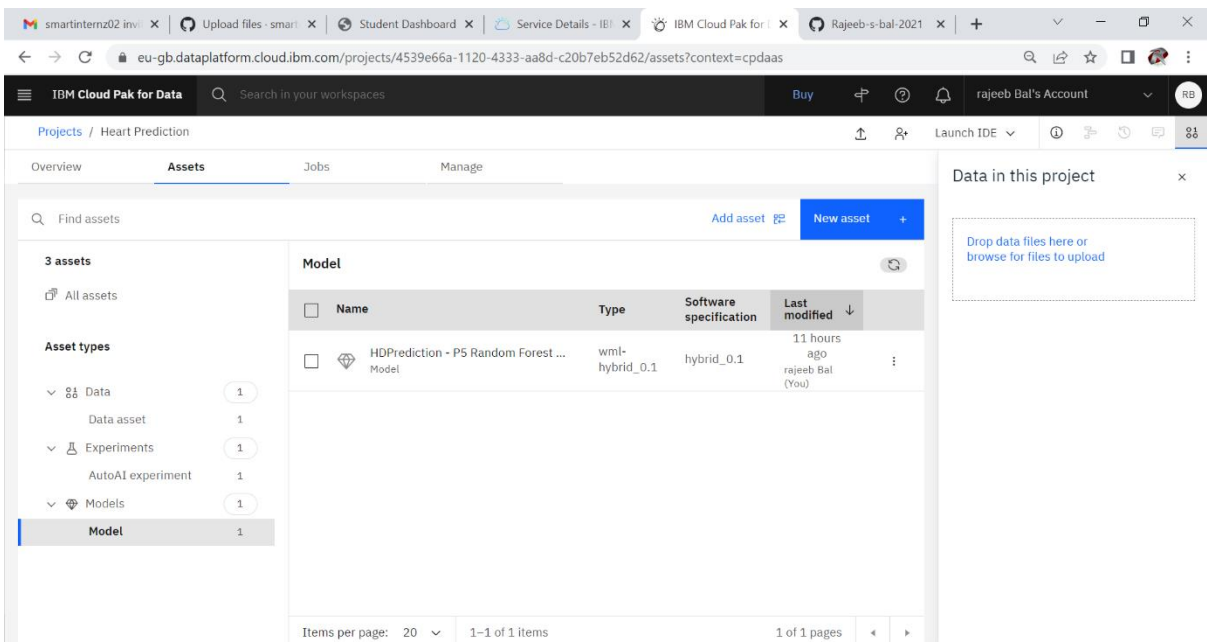


Figure: 03(a)

Find assets Add asset New asset

**3 assets**

**All assets**

Name	Last modified
HDPrediction - P5 Random Forest Classifier Model	11 hours ago rajeeb Bal (You)
HDPrediction AutoAI experiment	11 hours ago rajeeb Bal (You)
Heart_Prediction.csv	11 hours ago rajeeb Bal (You)

Items per page: 20 1-3 of 3 items 1 of 1 pages

Figure: 03(b)

Experiment summary Pipeline comparison Rank by: Accuracy (Optimized) Cross validation score

**Progress map**

Prediction column: HEARTFAILURE

Read dataset Split holdout data Read training data Preprocessing Model selection

XGB Classifier Hyperparameter optimization Feature engineering Hyperparameter optimization

Random Forest Classifier Hyperparameter optimization Feature engineering Hyperparameter optimization

**Relationship map**

Swap view

Experiment completed

8 PIPELINES GENERATED

8 pipelines generated from algorithms. See pipeline leaderboard below for more detail.

Time elapsed: 6 minutes

[View log](#) [Save code](#)

Figure: 03(c)

- Deployment of Project shown as in following figure 4

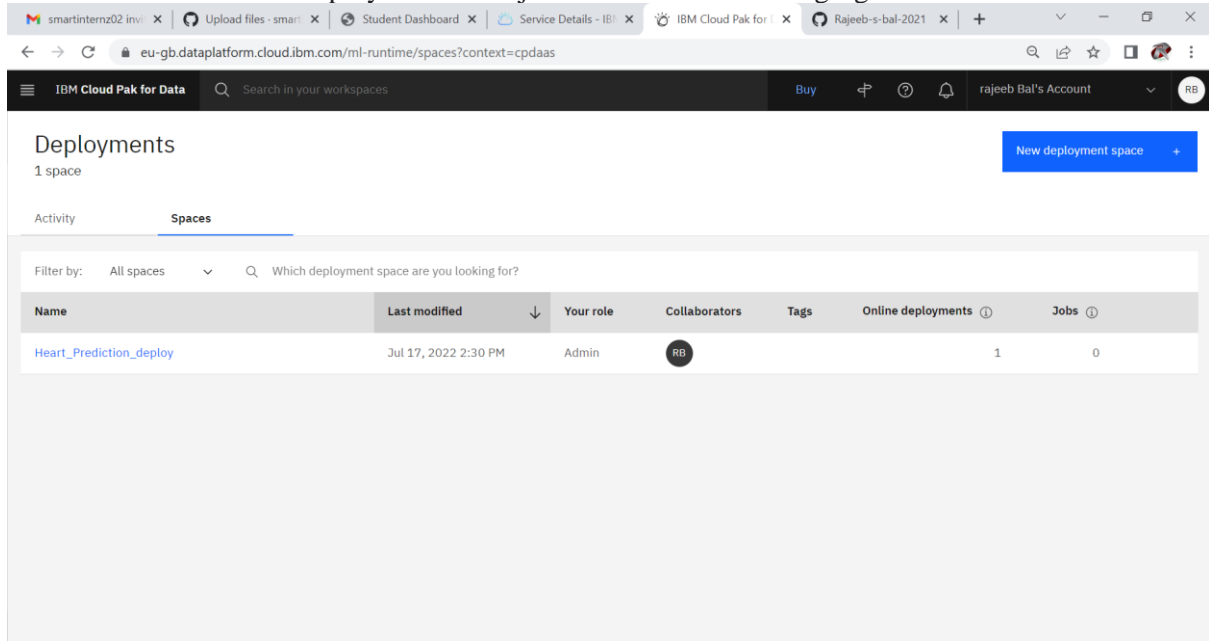


figure 4

- Using Node Red for Project shown as in following figure 5

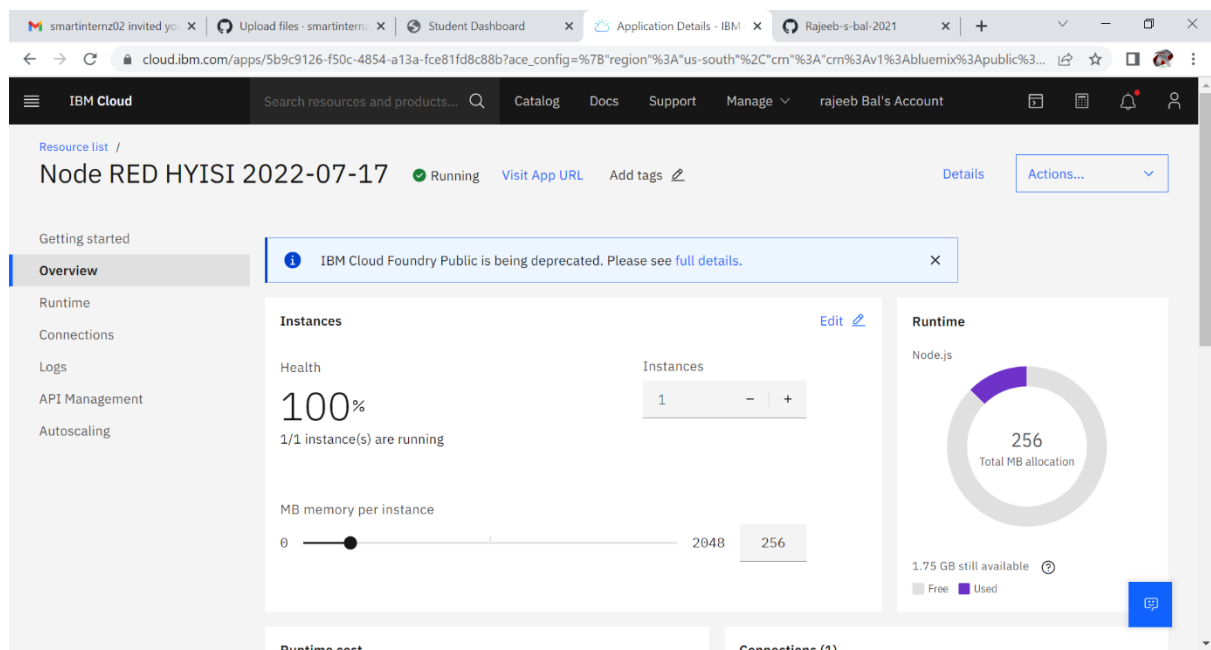


figure 5

Flow of Node Red for Project shown as in following figure 6(a) and (b).

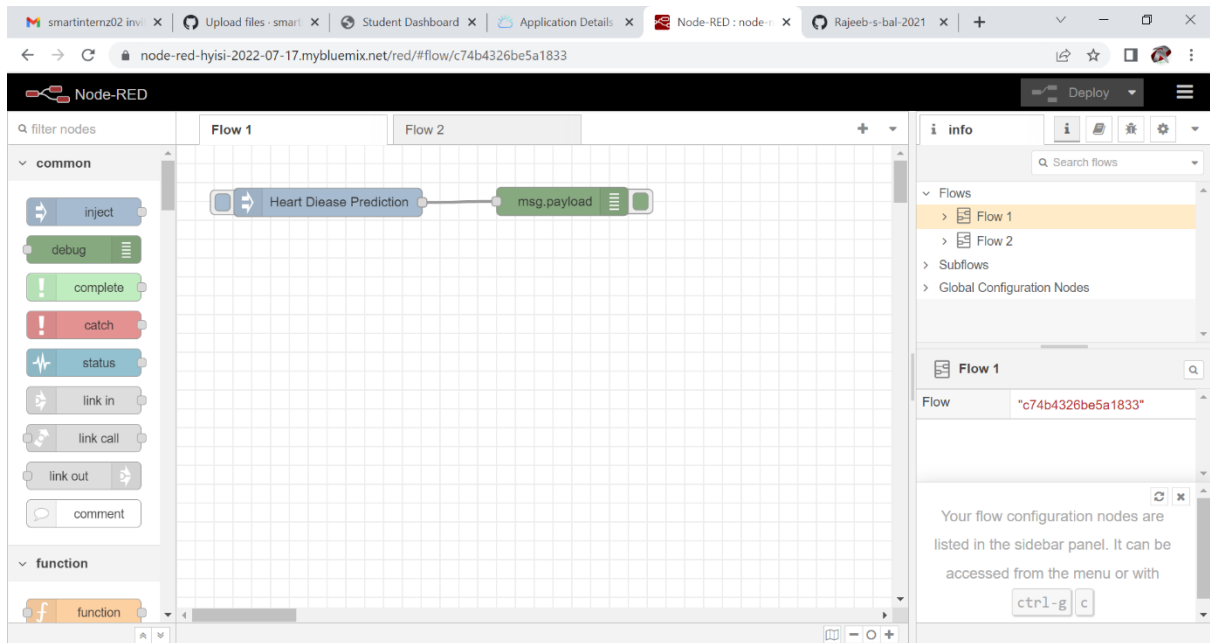


figure 6(a)

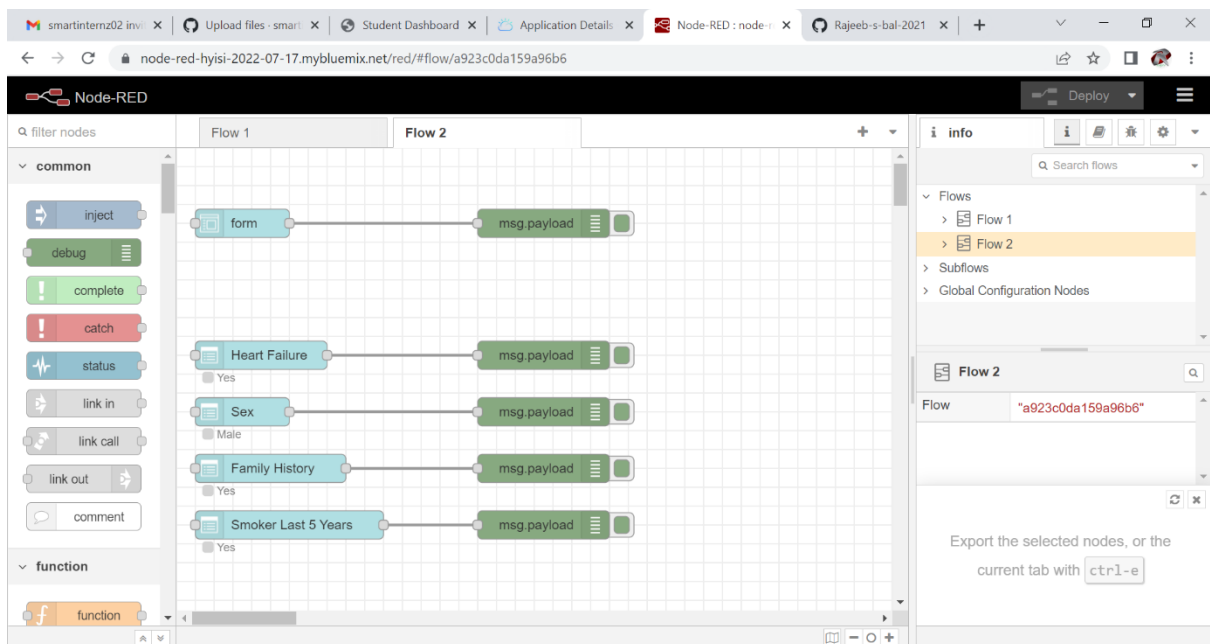


figure 6(b)

- Dashboard for Project shown as in following figure 7.

Heart Disease Predictor

Enter Values

Heart Failure Yes

Sex Male

Family History Yes

Smoker Last 5 Yes

Heart Failure \*

Average Heart Beats Per Min

Palpitation Per Day

Cholesterol

BMI

Age

Sex

Family History

Smoker Last 5 Years

Exercise Min Per Week

SUBMIT CANCEL

figure 7