

Health Insurance Cost Prediction Using IBM Auto AI Service

Category: IBM Cloud Application

Skills Required:

IBM Cloud,IBM Watson,IBM Nodered,IBM Watson Studio

Project Description:

Project Description:

In this project, we study the effects of age, smoking, BMI, gender, and region to determine how much of a difference these factors can make on your insurance premium. By using our application, customers see the radical difference their lifestyle choices make on their insurance charges. By leveraging artificial intelligence (AI) and machine learning, we help customers understand just how much smoking increases their premium by predicting how much they will have to pay within seconds.

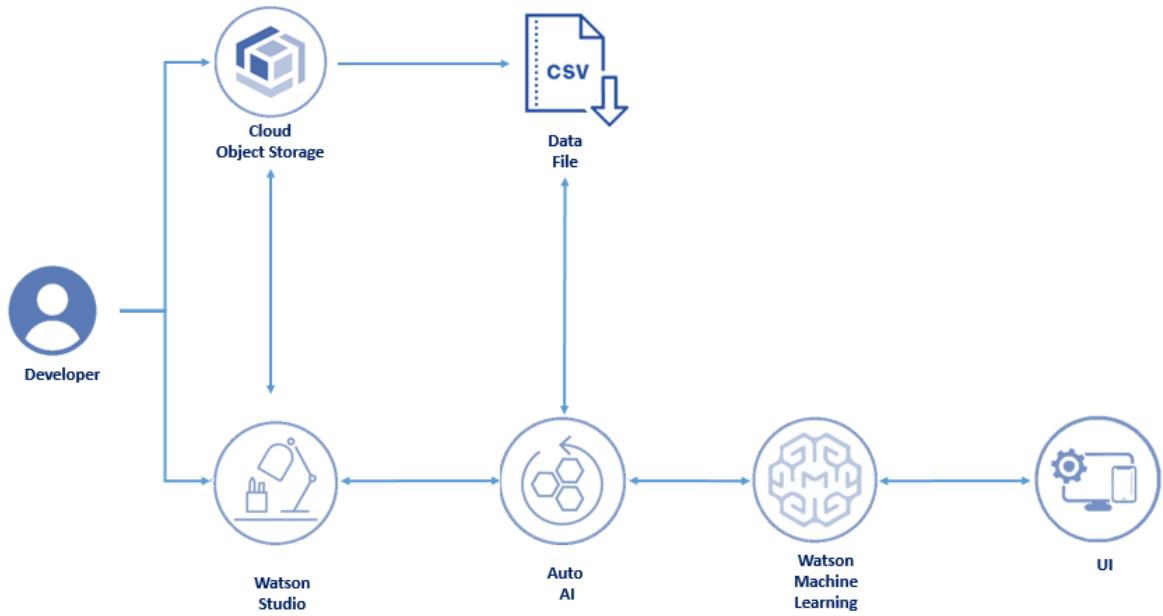
To build this project we will be using IBM AutoAI. You create a model from a data set that includes the age, gender, BMI, number of children, smoking preferences, region, and charges to predict the health insurance premium cost that an individual pays.

eferences, region, and charges to predict the health insurance premium cost that an individual pays.

Services Used:

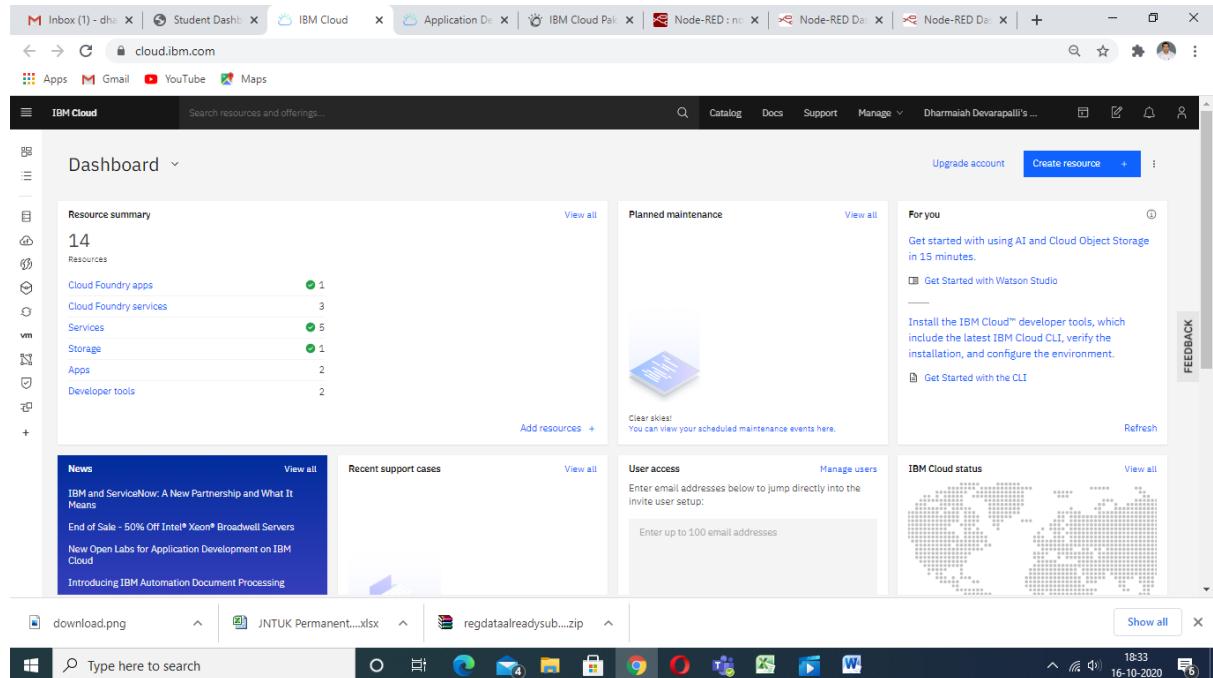
1. IBM Watson Studio
2. IBM Watson Machine Learning
3. Node-RED
4. IBM Cloud Object Storage

Architecture:



Pre-Requisites

To complete this project you need to have an IBM cloud account. You can create this account using this link



Building Model Using Auto AI

In this milestone, you need to build a model using Auto AI.

The screenshot shows the IBM Cloud Resource list interface. On the left, there is a sidebar with a tree view of resources categorized by type: Devices (0), VPC infrastructure (0), Clusters (0), Cloud Foundry apps (1), Cloud Foundry services (3), Services (5), Storage (2), and Network (0). The 'Watson Studio-ve' service is selected and highlighted with a black box. The main table lists the following services:

Name	Group	Location	Offering	Status	Tags
Continuous Delivery	Default	Dallas	Continuous Delivery	Active	-
KnowledgeCatalog	Default	Dallas	Watson Knowledge Catalog	Active	-
Watson Studio-ve	Default	Dallas	Watson Studio	Active	-
node-red-rzshb-2020--cloudant-1602843383515	Default	London	Cloudant	Active	-

At the bottom of the page, the URL is https://cloud.ibm.com/services/data-science-experience/crn%3Av1%3Abuemix%3Apublic%3Adata-science-experience%3Aus-south%3Aa%2F31783f0294ec4fc8a0e7e7c584824aa0%3A22f6baa-ca73-4f86-a10f-f37a1ae673e%3A%3A.

The screenshot shows the Watson Studio service details page. At the top, it says 'Watson Studio-ve' (Active) and has a 'Details' and 'Actions...' button. Below that is a 'Manage' section with a 'Plan' button. In the center is a purple icon of a house with a chimney. Below the icon is the heading 'Watson Studio'. A message says 'Welcome to Watson Studio. Let's get started!' with a 'Get Started' button. To the left is a 'Documentation' section with a brief description of what it covers, and to the right is a 'Gallery' section with a link to sample projects. At the bottom, the URL is https://cloud.ibm.com/services/data-science-experience/crn%3Av1%3Abuemix%3Apublic%3Adata-science-experience%3Aus-south%3Aa%2F31783f0294ec4fc8a0e7e7c584824aa0%3A22f6baa-ca73-4f86-a10f-f37a1ae673e%3A%3A.

Inbox (1) | Student Data | Service Details | IBM Cloud | Application | IBM Cloud | Node-RED | Node-RED | Node-RED | +

dataplatform.cloud.ibm.com/home2?context=cpdaas&apps=data_science_experience&nocache=true

IBM Cloud Pak for Data

Welcome, Dharmaiah!

Watson Studio - Watson Knowledge Catalog - Watson Machine Learning

Learn by example Step through solving a specific business problem in a sample project.

Work with data Create a project for your team to prepare data, find insights, or build models.

Extend your capabilities Add tools, databases, or other features by creating services instances.

Take a guided tutorial Create a project Create a service

Feedback

Quick navigation Projects Catalogs Deployment spaces

Support Documentation FAQ

Overview

Recent projects

HI	Today at 09:43 PM
HealthInsurance-AI	Oct 14, 2020 06:12 PM

Recent catalogs

No catalogs Your catalogs show here after you create or join them. Click New catalog to get started.

New catalog +

Notifications

No notifications You will see your most recent notifications here.

Show all

download.png JNTUK Permanent....xlsx regdataalreadysub....zip

18:34 16-10-2020

Inbox (1) | Student Data | Service Details | IBM Cloud | Application | IBM Cloud | Node-RED | Node-RED | Node-RED | +

dataplatform.cloud.ibm.com/projects?context=cpdaas

IBM Cloud Pak for Data

Projects

Which project are you looking for?

All my projects

New project +

Name	Role	Storage	Collaborators	Creator	Date created
HI	Admin	COS	0P	Dharmaiah Devarapalli	16 Oct 2020
HealthInsurance-AI	Admin	COS	0P	Dharmaiah Devarapalli	14 Oct 2020

Show more

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Show all

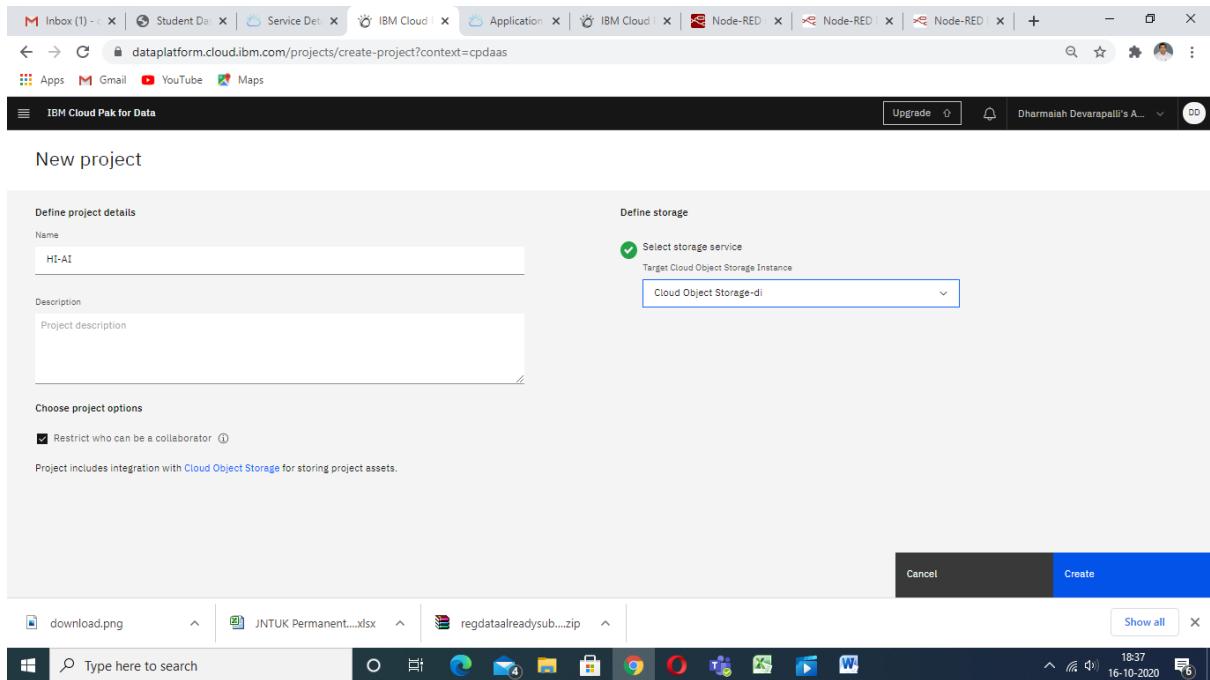
18:35 16-10-2020

The screenshot shows the IBM Cloud Pak for Data interface. At the top, there are several tabs: 'Inbox (1)', 'Student Data', 'Service Det...', 'IBM Cloud', 'Application', 'IBM Cloud', 'Node-RED', 'Node-RED', 'Node-RED'. Below the tabs, the URL is 'dataplatform.cloud.ibm.com/projects/1883819e-adaa-43ec-948b-c1a5cc6661f4?context=cpdaas'. The main header says 'IBM Cloud Pak for Data' with a dropdown menu. The navigation bar includes 'Projects / HI', 'Overview', 'Assets', 'Environments', 'Jobs', 'Access Control', 'Settings', 'Upgrade', 'Launch IDE', 'Add to project', and a bell icon. On the right, there are buttons for 'Dharmaiah Devarapalli's A...' and a profile picture. The main content area has a heading 'HI' and a note 'Last Updated: Oct 16, 2020'. It shows 'Recent activity' with a placeholder message: 'Alerts related to this project appear here when the project is active.' There are sections for 'Overview' (Date created: Oct 16, 2020, Description: No description available, Storage: 33.49 MB used in Cloud Object Storage), 'Collaborators' (Dharmaiah Devarapalli, Admin), and 'Readme' (with a 'View all (1)' link). On the right, there are summary numbers: 7 Assets and 1 Collaborator. The bottom of the screen shows a Windows taskbar with icons for File Explorer, Task View, Edge, Mail, Photos, Chrome, and others, along with a system tray showing the date and time.

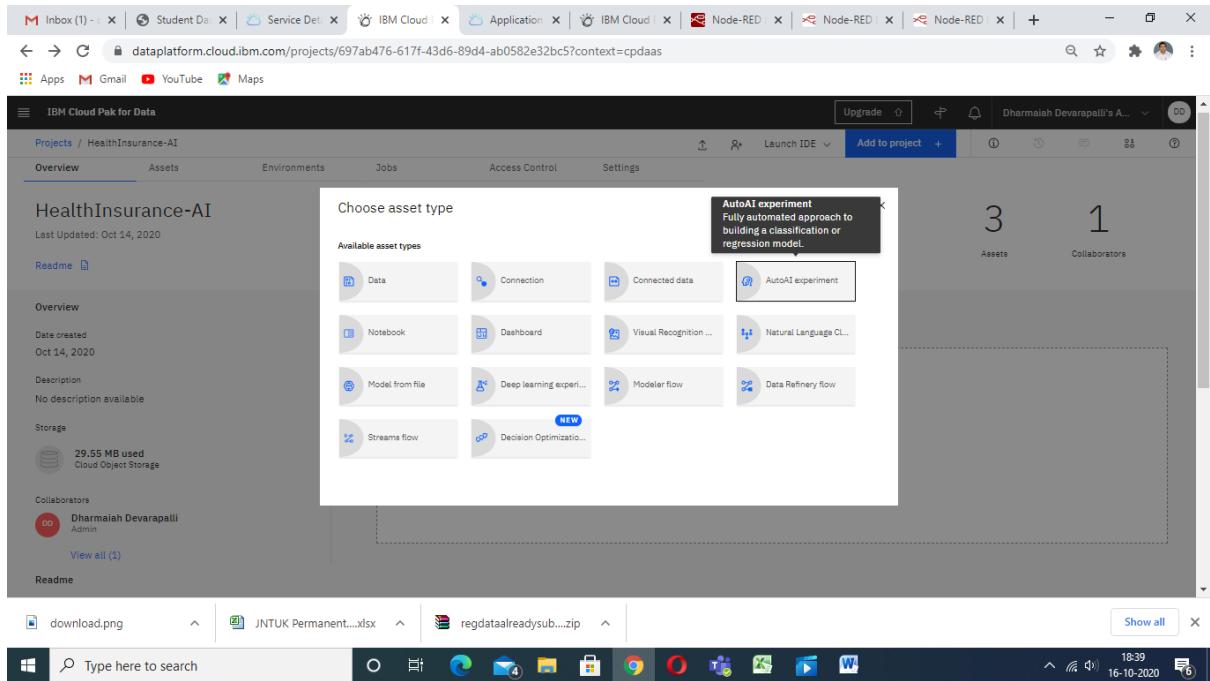
Add new projects:

The screenshot shows the 'Create a project' page. The URL is 'dataplatform.cloud.ibm.com/projects/new-project?context=cpdaas'. The main title is 'Create a project'. A sub-section titled 'Create an empty project' shows an icon of a house-like structure with a plus sign. It says 'Add the data you want to prepare, analyze, or model. Choose tools based on how you want to work: write code, create a flow on a graphical canvas, or automatically build models.' A 'NEW' label points to 'AutoAI experiment tool: Fully automated approach to building a classification or reg...'. To the right, under 'USE TO', are options: 'Prepare and visualize data', 'Analyze data in notebooks', and 'Train models'. Another sub-section titled 'Create a project from a sample or file' shows an icon of a document with a plus sign. It says 'Get started fast by loading existing assets. Choose a project file from your system, or choose a curated sample project.' To the right, under 'USE TO', are options: 'Learn by example', 'Build on existing work', and 'Run tutorials'. The bottom of the screen shows a Windows taskbar with icons for File Explorer, Task View, Edge, Mail, Photos, Chrome, and others, along with a system tray showing the date and time.

New project with name and ml tool



With autoAI



ADDING THE DATA BASES

Screenshot of the IBM Cloud Pak for Data interface showing the "Add data source" dialog. The dialog allows users to drop or browse for a CSV file or select from project files. The background shows a list of projects and experiments.

IBM Cloud Pak for Data

Projects / HealthInsurance-AI / aa

Configure AutoAI experiment
aa ↗

Add data source

Add data source

Drop or browse for a csv file.

Browse or Select from project

download.png JNTUK Permanent....xlsx regdataaready...zip

Type here to search

18:40 16-10-2020

Screenshot of the IBM Cloud Pak for Data interface showing the "Add data source" dialog. The dialog allows users to drop or browse for a CSV file or select from project files. A file explorer window is overlaid on the dialog, showing datasets in the "Project > Datasets" folder. The file explorer lists files like "archive", "flows.json", "insurance(1)", "insurance", and "Project Output".

Open

Project > Datasets

Name Date modified Type

archive 13-10-2020 15:41 WinRAR ZIP archive

flows.json 14-10-2020 18:28 JSON File

insurance(1) 25-10-2019 21:58 Microsoft Excel

insurance 25-10-2019 21:58 Microsoft Excel

Project Output 16-10-2020 18:29 Microsoft Word

File name: Open Cancel

Add data source

Drop or browse for a csv file.

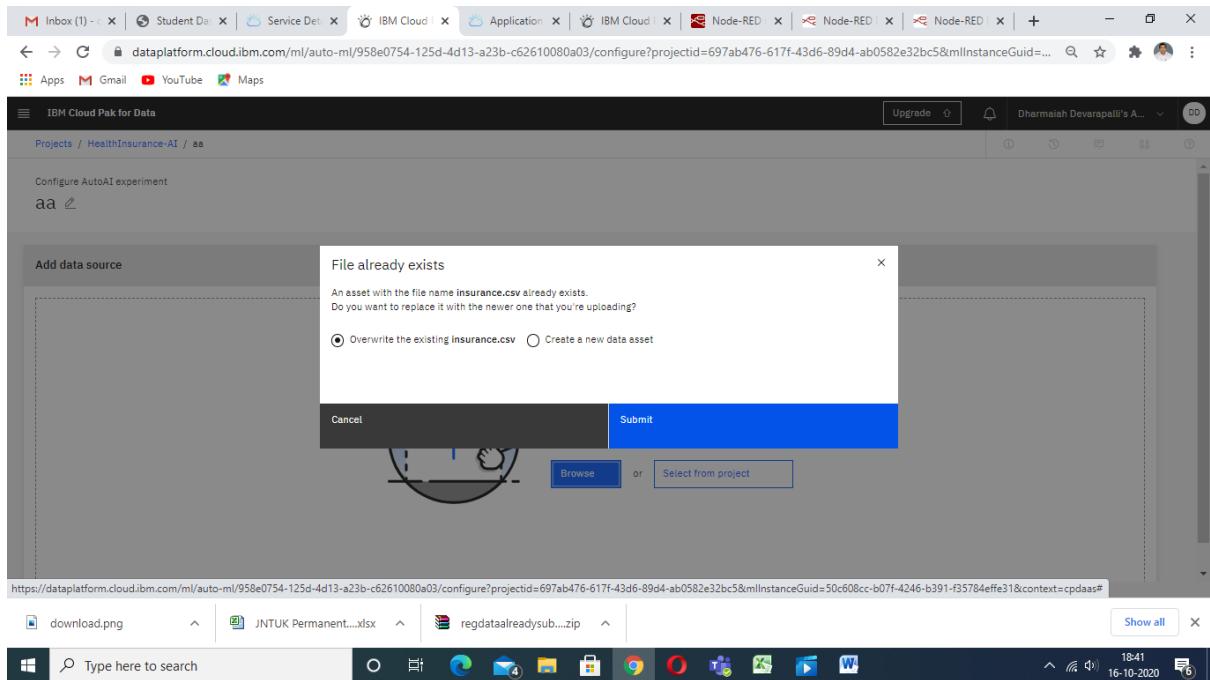
Browse or Select from project

https://dataplatform.cloud.ibm.com/ml/auto-ml/958e0754-125d-4d13-a23b-c62610080a03/configure?projectId=697ab476-617f-43d6-89d4-ab0582e32bc5&mllInstanceGuid=50c608cc-b07f-4246-b391-f35784effe31&context=cpdaas#

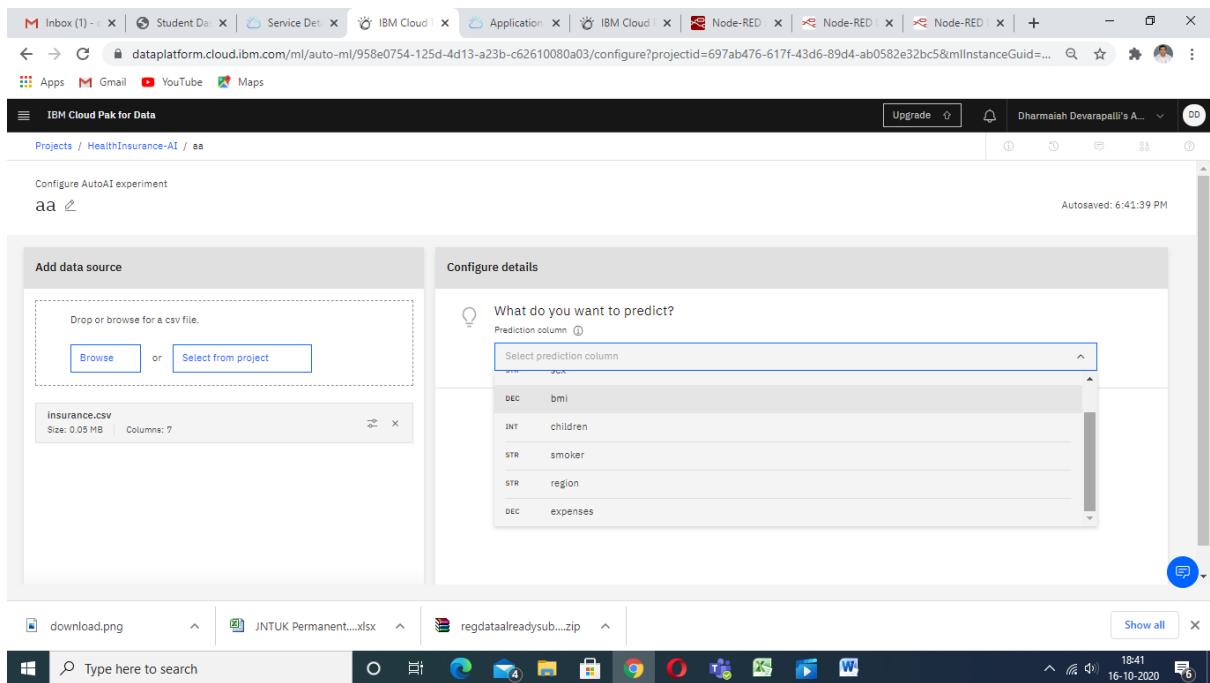
download.png JNTUK Permanent....xlsx regdataaready...zip

Type here to search

18:40 16-10-2020



It select the the following screen



Regression values:

The screenshot shows the IBM Cloud Pak for Data interface. In the top left, there's a sidebar with 'IBM Cloud Pak for Data'. The main area has tabs for 'Projects / HealthInsurance-AI / aa'. On the right, there are buttons for 'Upgrade', 'Dharmaiah Devarapalli's A...', and a user icon. Below the tabs, it says 'Autosaved: 6:41:39 PM'. The central part has two main sections: 'Add data source' (with a CSV file 'insurance.csv' selected) and 'Configure details' (where 'expenses' is set as the prediction column, PREDICTION TYPE is 'Regression', and OPTIMIZED METRIC is 'RMSE'). At the bottom, there's a 'Run experiment' button.

Data source

This screenshot shows the 'Experiment settings' page for a regression model. The left sidebar has 'Data source' selected. The main area shows 'Data source settings' with a slider for 'Training data split' (set at 90%) and 'Holdout data split' (set at 10%). Below this, there's a table for 'Select columns to include' with two rows: 'age' (Type: Integer) and 'sex' (Type: String). At the bottom, there are 'Cancel' and 'Save settings' buttons.

Regression algorithms

The screenshot shows the 'Experiment settings' page in the IBM Cloud Pak for Data interface. The 'Prediction' tab is selected. Under 'Prediction settings', the 'Optimized metric' dropdown is set to 'Root mean squared error (RMSE) (Recommended)'. Other options listed include Mean squared error (MSE), Mean absolute error (MAE), Median absolute error (MedAE), Root mean squared log error (RMSLE), Mean squared log error (MSLE), Explained variance, and R^2 . The 'Data source' is set to 'expenses (DEC)' and the 'Data source' is 'insurance.csv'. At the bottom, there are 'Cancel' and 'Save settings' buttons.

Runtime

The screenshot shows the 'Experiment settings' page in the IBM Cloud Pak for Data interface. The 'Runtime' tab is selected. Under 'Runtime settings', the 'Experiment details' section shows 'Initial model tuning iterations: 25', 'Feature engineering iterations: 60', and 'Final model tuning iterations: 50'. The 'Watson Machine Learning service' dropdown is set to 'WatsonMachineLearning'. The 'Compute configuration' section allows customization of resources. At the bottom, there are 'Cancel' and 'Save settings' buttons.

RMSE Execution

Screenshot of the IBM Cloud Pak for Data interface showing the AutoAI experiment progress.

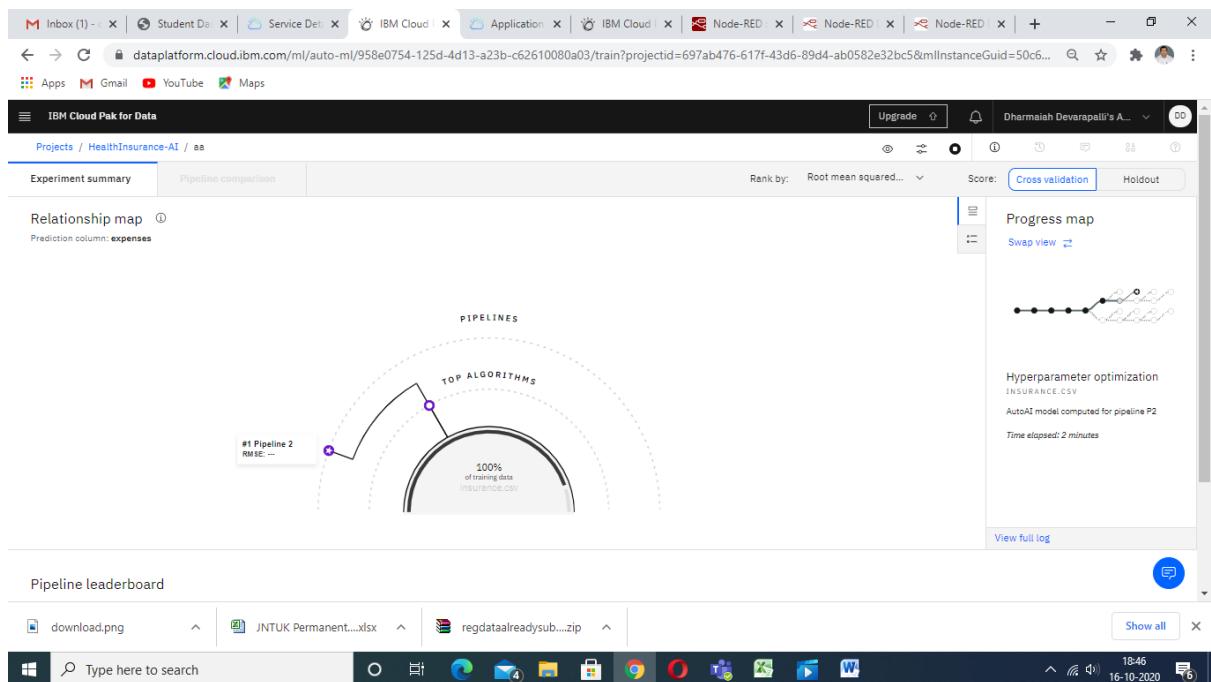
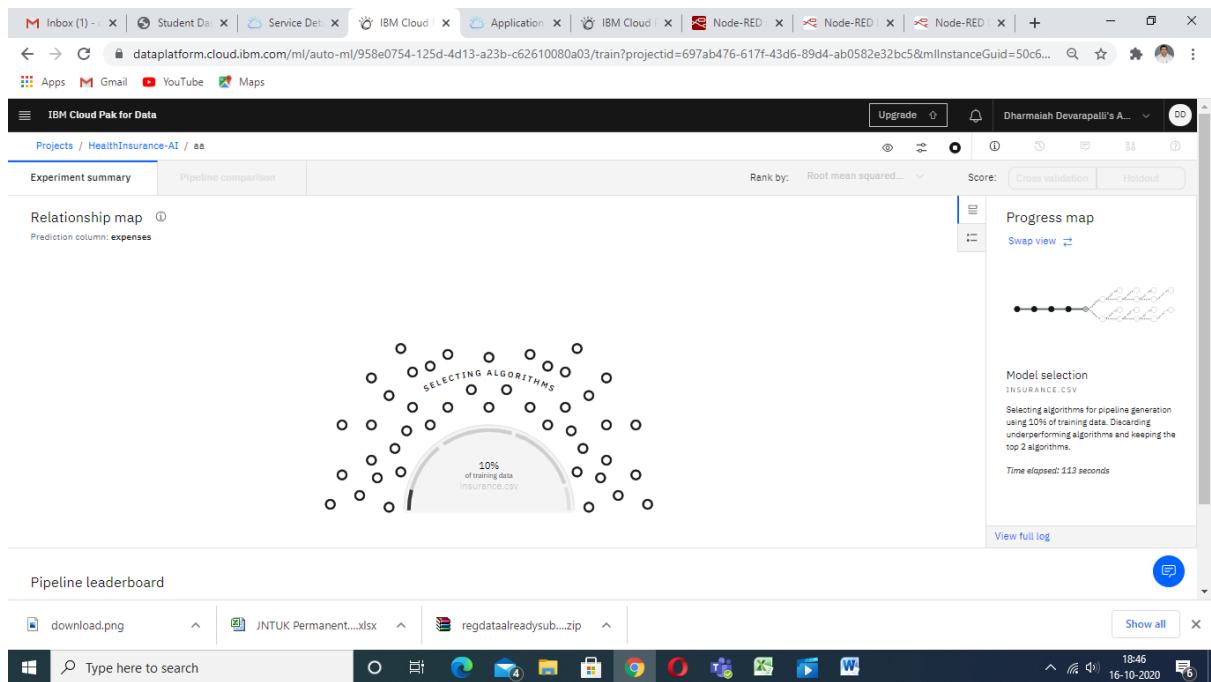
The interface includes:

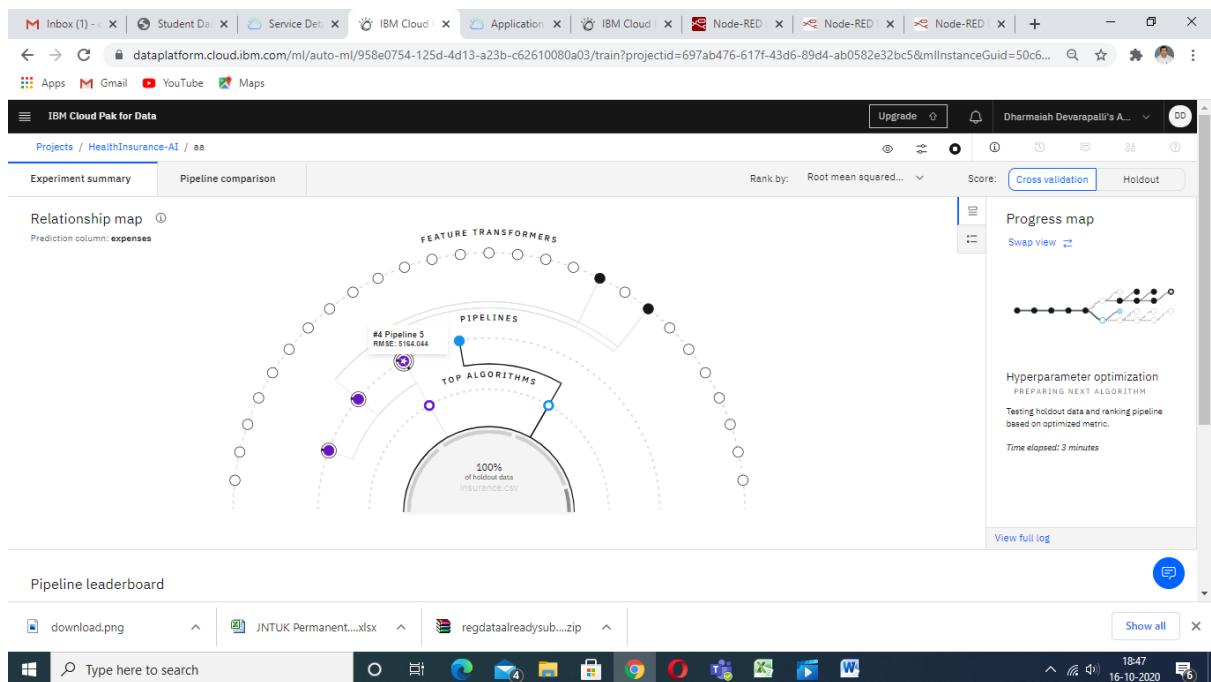
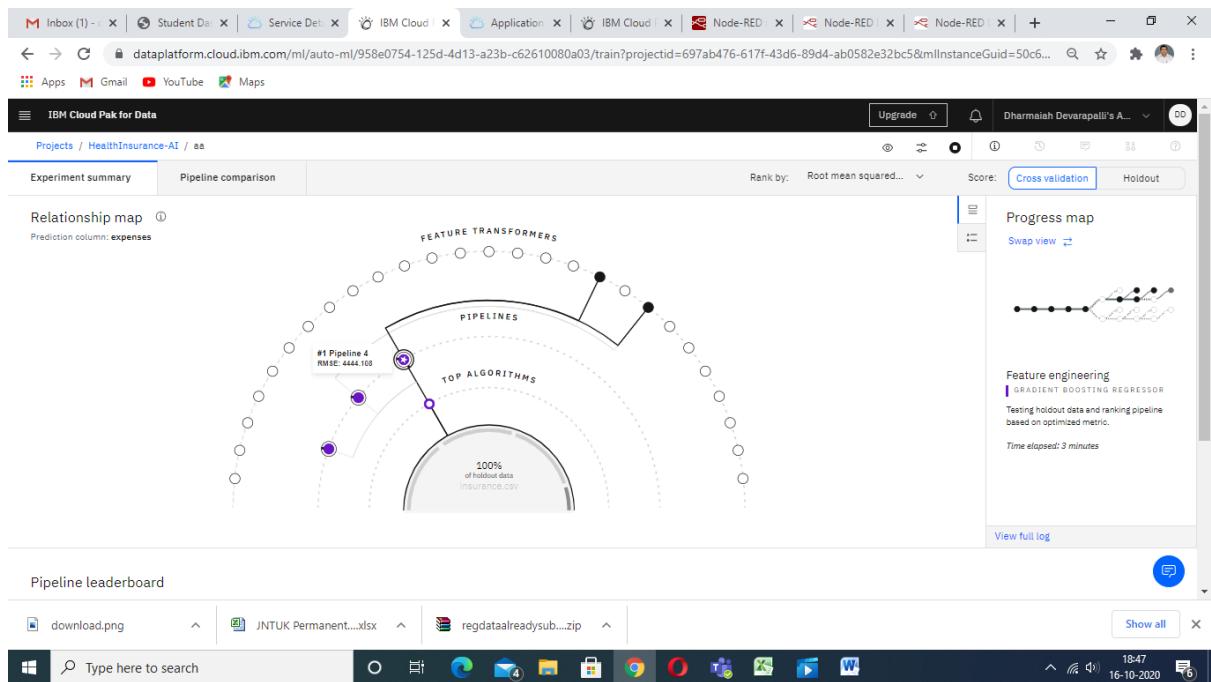
- Header bar with multiple tabs: Inbox (1), Student Data, Service Det., IBM Cloud, Application, IBM Cloud, Node-RED, Node-RED, Node-RED.
- Toolbar with icons: Apps, Gmail, YouTube, Maps.
- Left sidebar: IBM Cloud Pak for Data, Projects / HealthInsurance-AI / aa, Experiment summary, Pipeline comparison.
- Relationship map: Prediction column: expenses, insurance.csv.
- Progress map: Your AutoAI run has started. Based on the size of the training data and configuration of your run, this run could take some time to complete.
- Score: Root mean squared... (dropdown), Score: Cross validation, Holdout.
- Bottom section: Pipeline leaderboard, Show all button, Taskbar with download.png, JNTUK Permanent....xlsx, regdataareadysub....zip, and various Windows icons.

Screenshot of the IBM Cloud Pak for Data interface showing the AutoAI experiment progress.

The interface includes:

- Header bar with multiple tabs: Inbox (1), Student Data, Service Det., IBM Cloud, Application, IBM Cloud, Node-RED, Node-RED, Node-RED.
- Toolbar with icons: Apps, Gmail, YouTube, Maps.
- Left sidebar: IBM Cloud Pak for Data, Projects / HealthInsurance-AI / aa, Experiment summary, Pipeline comparison.
- Relationship map: Prediction column: expenses, insurance.csv.
- Progress map: Your AutoAI run has started. Based on the size of the training data and configuration of your run, this run could take some time to complete.
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IBM Cloud Pak for Data

Projects / HealthInsurance-AI / aa

Experiment summary Pipeline comparison Rank by: Root mean squared... Score: Cross validation Holdout

Relationship map Prediction column: expenses

FEATURE TRANSFORMERS
PIPELINES
TOP ALGORITHMS
100% of training data Insurance cap

Progress map Swap view

Pipeline generation RANDOM FOREST REGRESSOR Testing holdout data and ranking pipeline based on optimized metric. Time elapsed: 3 minutes

View full log

Pipeline leaderboard

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IBM Cloud Pak for Data

Projects / HealthInsurance-AI / aa

Experiment summary Pipeline comparison Rank by: Root mean squared... Score: Cross validation Holdout

Relationship map Prediction column: expenses

FEATURE TRANSFORMERS
PIPELINES
TOP ALGORITHMS
100% of training data Insurance cap

Progress map Swap view

Hyperparameter optimization RANDOM FOREST REGRESSOR AutoAI model computed for pipeline #6 Time elapsed: 4 minutes

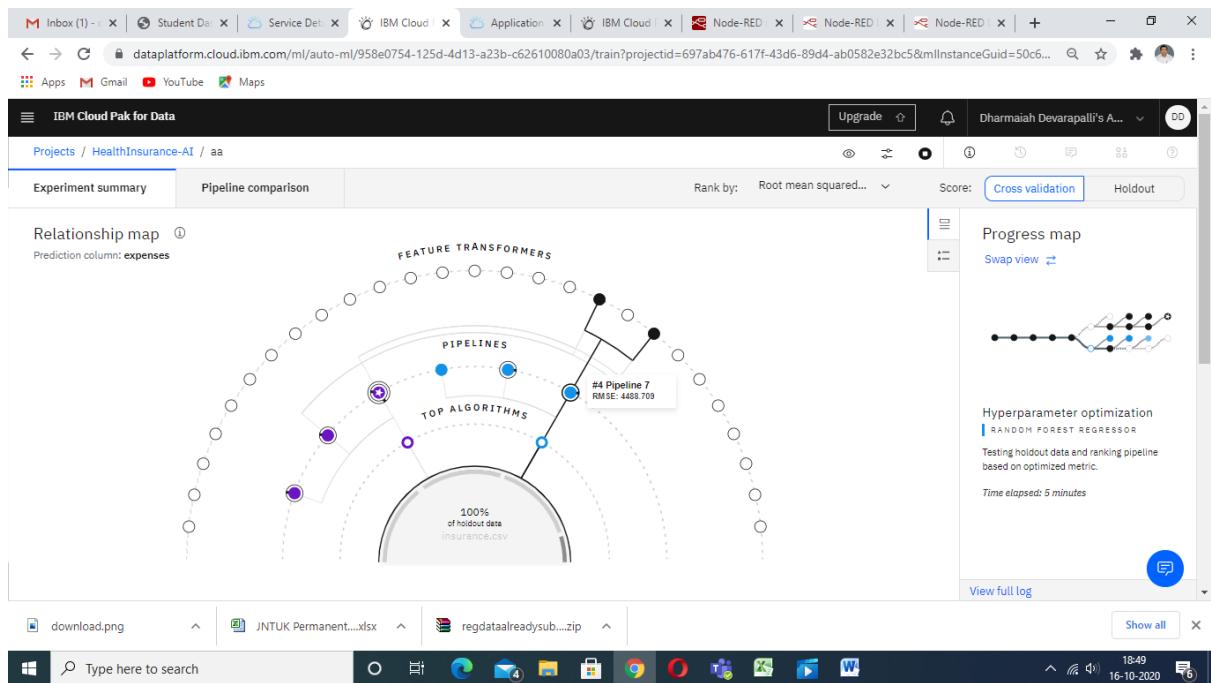
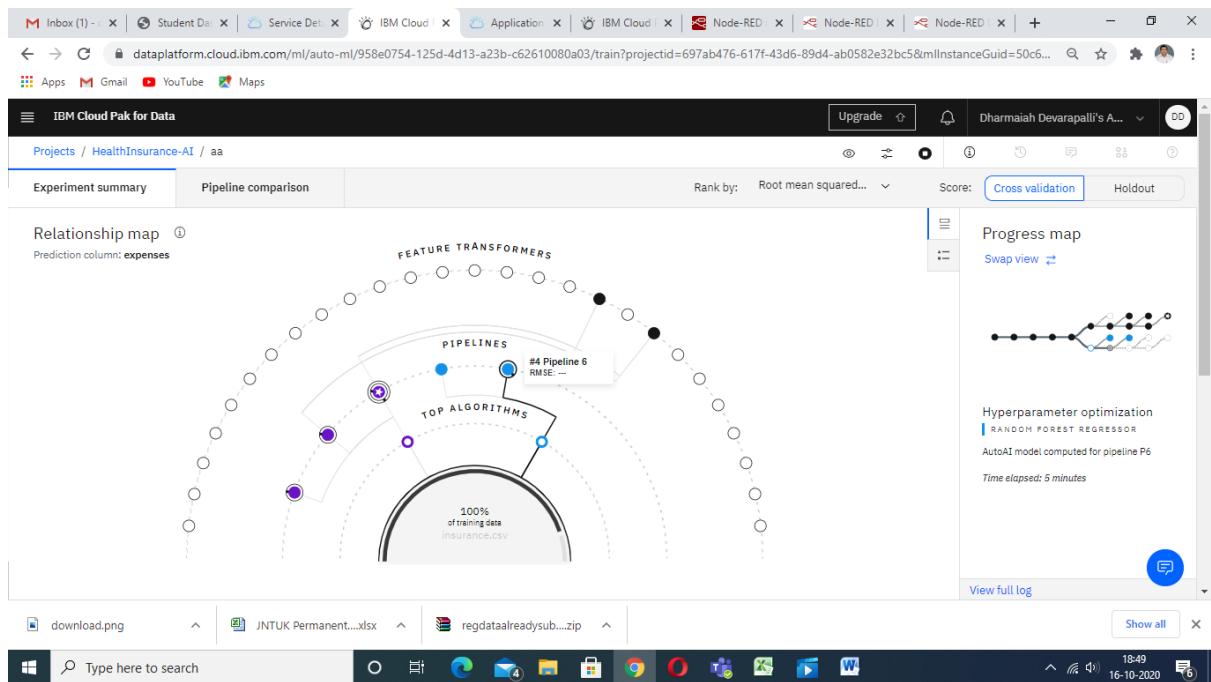
View full log

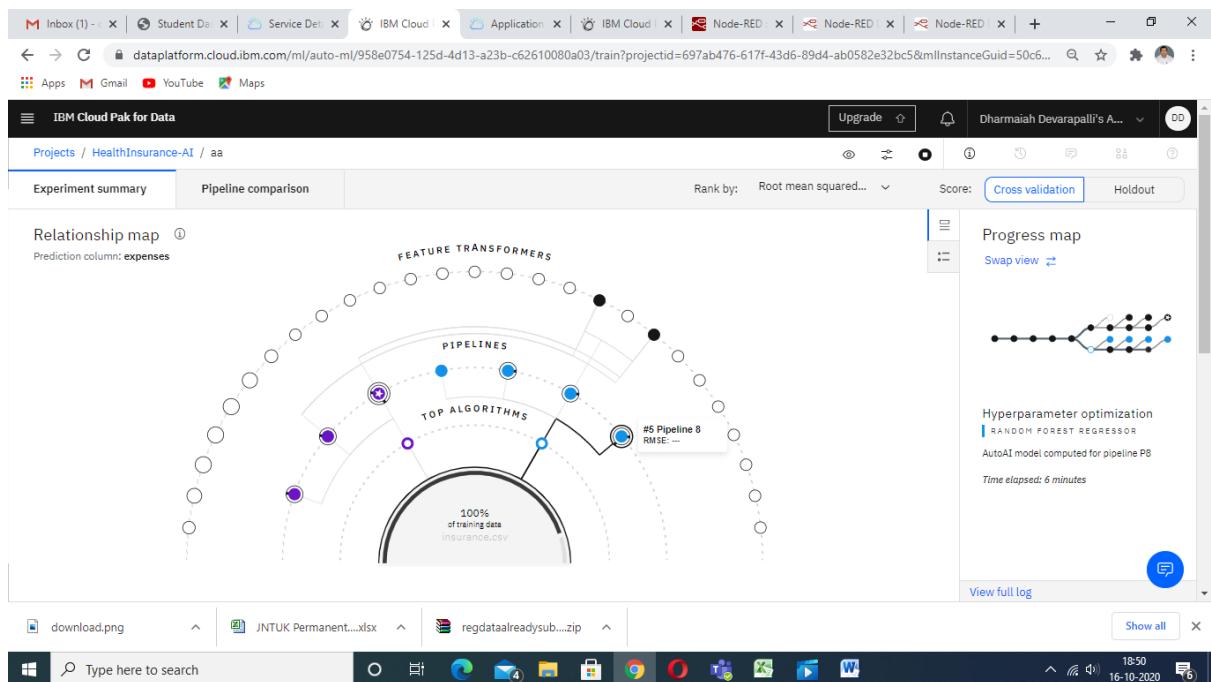
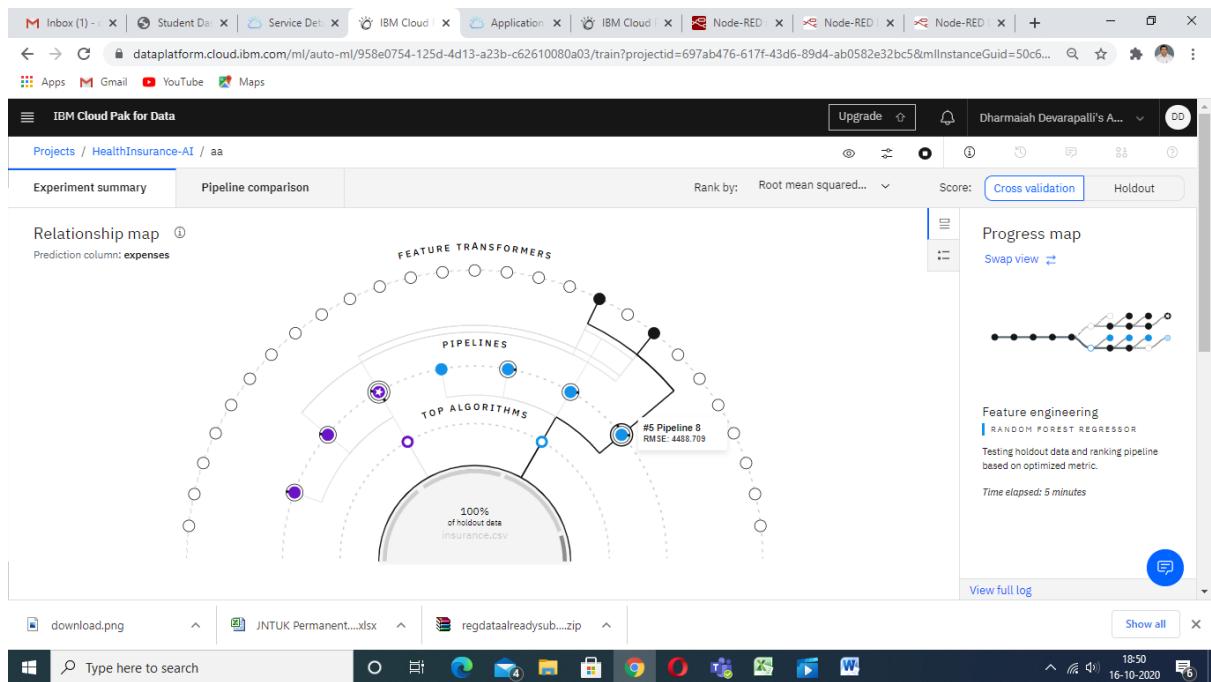
Pipeline leaderboard

Rank	Name	Algorithm	RMSE (estimated)	Enhancements	Tl	Build time
> 1	Pipeline 4	Gradient Boosting Regressor	4444.108	[HPO 1] [HPO 2]		00:00:29
> 2	Pipeline 3	Gradient Boosting Regressor	4452.785	[HPO 1]		00:00:55
> 3	Pipeline 2	Gradient Boosting Regressor	4465.303	[HPO 1]		00:00:12
> 4	Pipeline 6	Random Forest Regressor	4495.891	[HPO 1]		00:00:11
> 5	Pipeline 9	Random Forest Regressor	5144.044	None		00:00:01

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IBM Cloud Pak for Data

Projects / HealthInsurance-AI / aa

Experiment summary Pipeline comparison Rank by: Root mean squared... Score: Cross validation Holdout

Rank	Name	Algorithm	RMSE (Optimized)	Enhancements	Build time
> 1	Pipeline 4	Gradient Boosting Regressor	4444.108	HPO-1 FE HPO-2	00:00:29
> 2	Pipeline 3	Gradient Boosting Regressor	4452.785	HPO-1 FE	00:00:55
> 3	Pipeline 2	Gradient Boosting Regressor	4465.303	HPO-1	00:00:12
> 4	Pipeline 7	Random Forest Regressor	4488.709	HPO-1 FE	00:01:12
> 5	Pipeline 8	Random Forest Regressor	4488.709	HPO-1 FE HPO-2	00:00:28
> 6	Pipeline 6	Random Forest Regressor	4495.891	HPO-1	00:00:11
> 7	Pipeline 5	Random Forest Regressor	5164.044	None	00:00:01

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18:50 16-10-2020

IBM Cloud Pak for Data

Projects / HealthInsurance-AI / aa

Experiment summary Pipeline comparison Rank by: Root mean squared... Score: Cross validation Holdout

Relationship map ① Prediction column: expenses

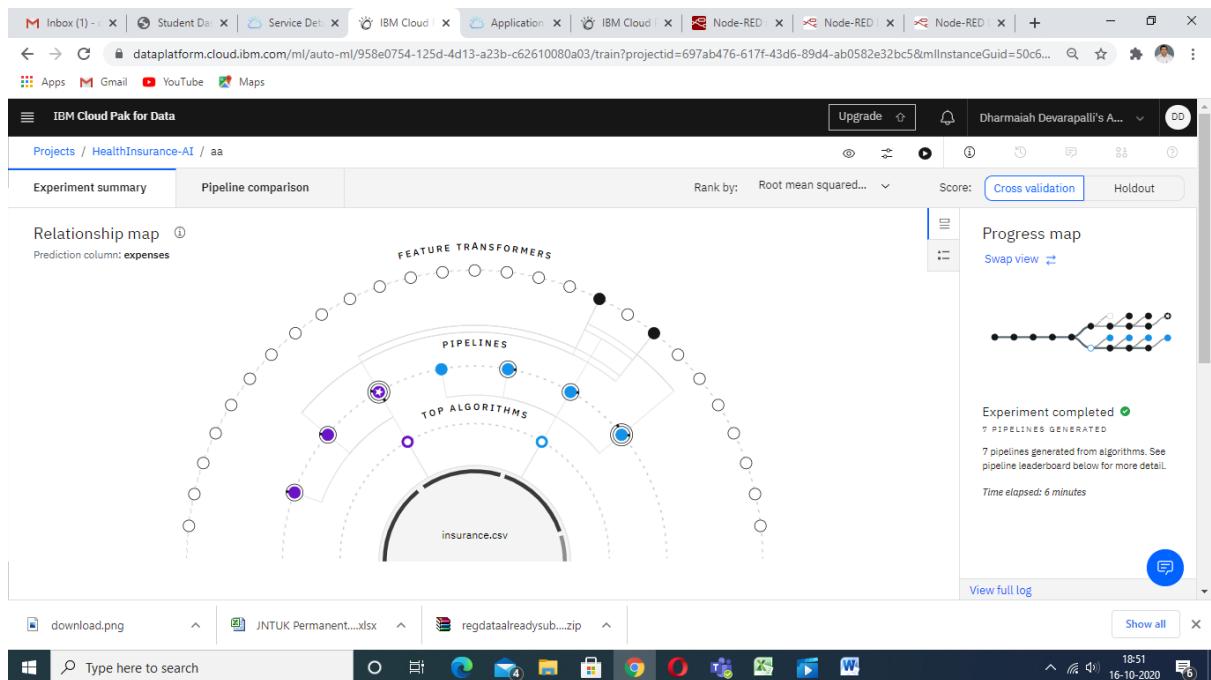
Progress map Swap view

Hyperparameter optimization RANDOM FOREST REGRESSOR AutoAI model computed for pipeline P8 Time elapsed: 6 minutes

View full log

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18:50 16-10-2020



The screenshot shows a 'Pipeline comparison' section of the IBM Cloud Pak for Data interface. It displays a table of pipelines ranked by RMSE (Optimized). A tooltip '1st hyperparameter optimization' is shown over Pipeline 7. The table includes columns for Rank, Name, Algorithm, RMSE (Optimized), Enhancements, and Build time.

Rank	Name	Algorithm	RMSE (Optimized)	Enhancements	Build time
> 1	Pipeline 4	Gradient Boosting Regressor	4444.108	HPO-1 FE HPO-2	00:00:29
> 2	Pipeline 3	Gradient Boosting Regressor	4452.785	HPO-1 FE	00:00:55
> 3	Pipeline 2	Gradient Boosting Regressor	4465.303	HPO-1	00:00:12
> 4	Pipeline 7	Random Forest Regressor	4488.709	1st hyperparameter optimization	00:01:12
> 5	Pipeline 8	Random Forest Regressor	4488.709	HPO-1 FE HPO-2	00:00:28
> 6	Pipeline 6	Random Forest Regressor	4495.891	HPO-1	00:00:11
> 7	Pipeline 5	Random Forest Regressor	5164.044	None	00:00:01

At the bottom, there's a file navigation bar with 'download.png', 'JNTUK Permanent....xlsx', and 'regdataalreadysub....zip'.

The screenshot shows the IBM Cloud Pak for Data interface. In the center, there is a table titled "Pipeline comparison" showing seven pipelines. Pipeline 4 is highlighted with a star and has a context menu open over it. The menu includes options like "Save as Model" and "Model Notebook". The table columns include Rank, Name, Algorithm, RMSE (Optimized), Enhancements, and Build time.

Rank	Name	Algorithm	RMSE (Optimized)	Enhancements	Build time
> 4	Pipeline 7	Random Forest Regressor	4488.709	HPO-1 FE	00:01:12
> 2	Pipeline 3	Gradient Boosting Regressor	4452.785	HPO-1 FE	00:00:55
> ★ 1	Pipeline 4	Gradient Boosting Regressor	4444.108	HPO-1 FE HPO-2	00:00:29
> 5	Pipeline 8	Random Forest Regressor	4488.709	HPO-1 FE HPO-2	00:00:28
> 3	Pipeline 2	Gradient Boosting Regressor	4465.303	HPO-1	00:00:12
> 6	Pipeline 6	Random Forest Regressor	4495.891	HPO-1	00:00:11
> 7	Pipeline 5	Random Forest Regressor	5164.044	None	00:00:01

Save the results

The screenshot shows the same interface as above, but now a modal dialog is open over the table. The dialog is titled "Save as model" and contains fields for "Model name" (aa - P4 GradientBoostingRegressorEstimator), "Description (optional)" (Description of model), and "Associated project" (HealthInsurance-AI). At the bottom of the dialog are "Cancel" and "Save" buttons.

IBM Cloud Pak for Data

Projects / HealthInsurance-AI / aa

Experiment summary Pipeline comparison Rank by: Root mean squared...

Rank	Name	Algorithm	RMSE (Optimized)	Enhancements
> 4	Pipeline 7	Random Forest Regressor	4488.709	HPO-1 FE
> 2	Pipeline 3	Gradient Boosting Regressor	4452.785	HPO-1 FE
> ★ 1	Pipeline 4	Gradient Boosting Regressor	4444.108	HPO-1 FE HPO-2
> 5	Pipeline 8	Random Forest Regressor	4488.709	HPO-1 FE HPO-2
> 3	Pipeline 2	Gradient Boosting Regressor	4465.303	HPO-1
> 6	Pipeline 6	Random Forest Regressor	4495.891	HPO-1
> 7	Pipeline 5	Random Forest Regressor	5164.044	None

Saved model successfully.
aa - P4
GradientBoostingRegressorEstimator
was successfully saved to
HealthInsurance-AI.

View in project

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18:52 16-10-2020

IBM Cloud Pak for Data

My Projects / HealthInsurance-AI / aa - P4 GradientBoostingRegress...

Model aa - P4 GradientBoostingRegressorEstimator Promote to deployment space ↗

Overview Activities

Summary

Model Type	wml-hybrid_0.1
Software specification	hybrid_0.1
Training date	16 Oct 2020, 6:52 PM

Input Schema

Column	Type
Input	

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18:52 16-10-2020

Creating the Deployment

The screenshot shows the 'Promote to space' dialog in the IBM Cloud Pak for Data interface. The 'Selected assets (1)' section lists one asset: 'aa - P4 GradientBoostingRegressorEstimator' in 'wml_model' format. The 'Promote' button is located at the bottom right of the dialog.

The screenshot shows the 'Promote to space' dialog in the IBM Cloud Pak for Data interface. The 'Promote' button is now labeled 'Promoting...', indicating the process is underway. The status bar at the bottom shows the time as 18:53 and the date as 16-10-2020.

The screenshot shows the IBM Cloud Pak for Data interface. The top navigation bar includes tabs for 'Inbox', 'Student Data', 'Service Det...', 'IBM Cloud', 'Application', 'IBM Cloud', 'Node-RED', 'Node-RED', 'Node-RED', and a '+' button. Below the navigation is a toolbar with 'Upgrade', 'Launch IDE', 'Add to project', and other icons. The main area is titled 'IBM Cloud Pak for Data' and shows the 'HealthInsurance-AI' project. Under 'Overview', there's a search bar and sections for 'Data assets' and 'AutoAI experiments'. The 'Data assets' section lists 'insurance.csv' as a Data Asset created by Dharmaiah Devarapalli on Oct 16, 2020, 06:41 PM. The 'AutoAI experiments' section lists 'aa' and 'HI' as Completed Regression models. At the bottom, there's a file bar with 'download.png', 'JNTUK Permanent...xlsx', and 'regdataalreadysub...zip', and a system tray showing the date and time.

The screenshot shows the IBM Cloud Pak for Data interface. The top navigation bar includes tabs for 'Inbox - dha', 'Student Data', 'Resource lis...', 'IBM Cloud', 'Application', 'IBM Cloud', 'Node-RED', 'Node-RED', 'Node-RED', and a '+' button. Below the navigation is a toolbar with 'Upgrade', 'Launch IDE', 'Add to space', and other icons. The main area is titled 'IBM Cloud Pak for Data' and shows the 'Health Insurance Cost Prediction...' space. Under 'Deployments', there's a search bar and sections for 'Assets', 'Deployments', 'Jobs', 'Access control', and 'Settings'. The 'Assets' section shows 'Models (5)' with names like 'aa - P4 GradientBoostingRegressorEstimator...', 'hi-AIII - P4 GradientBoostingRegressor...', 'HI-AI - P4 GradientBoostingRegressor...', 'HI-AI - P4 GradientBoostingRegressor...', and 'HI - P8 RandomForestRegressorEstimator...'. A large dashed box on the right is labeled 'Drop files here or browse for files to upload.' with instructions: 'Stay on the page until upload completes. Incomplete uploads are cancelled.' At the bottom, there's a file bar with 'Dr Dharmaiah Dev...pdf', 'download.png', 'JNTUK Permanent...xlsx', and 'regdataalreadysub...zip', and a system tray showing the date and time.

IBM Cloud Pak for Data

hi-AIII - P4 GradientBoostingRegressorEstimator

Deployments / Health Insurance Cost Prediction... / hi-AIII - P4 GradientBoostingReg...

Create deployment

DEPLOYMENT TYPES

	Online	Batch
(1)	HI-AIII	(0)

Name Status Last modified

HI-AIII Deployed Oct 16, 2020 5:54 PM

hi-AIII - P4 GradientBoostingRegressorEstimator
Last modified at Oct 16, 2020 7:08 PM

Created Oct 16, 2020 5:54 PM

Type wml-hybrid_0.1

Model ID fb081ecf-36c8-48fb-812c-88c0d220240d

Software specification hybrid_0.1

Hybrid pipeline software specifications autoai-kb_3.1-py3.7

Description No description provided.

Dr Dharmaiah Devapalli.pdf download.png JNTUK Permanent...xlsx regdataalreadysub...zip Show all

Type here to search 19:08 16-10-2020

Deployment results

IBM Cloud Pak for Data

Deployments / Health Insurance Cost Prediction... / HI-AIII

HI-AIII Deployed Online

API reference Test

Direct link

Endpoint Bearer <token>

https://us-south.ml.cloud.ibm.com/v4/deployments/d555e078-9b61-4e19-8987-db784ee740f1/. IAM

Code snippets

CURL Java JavaScript Python Scala

```
# retrieve your $IAM_SERVICE_CREDENTIALS_USERNAME, $IAM_SERVICE_CREDENTIALS_PASSWORD, and $IAM_SERVICE_CREDENTIALS_URL from the
# Service credentials associated with your IBM Cloud.

curl --basic --user $IAM_SERVICE_CREDENTIALS_USERNAME:$IAM_SERVICE_CREDENTIALS_PASSWORD $IAM_SERVICE_CREDENTIALS_URL/identity/token

# the above CURL request will return an auth token that you will use as $IAM_AUTH_TOKEN in the scoring request below
# TODO: manually define and pass values to be scored below
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer $IAM_AUTH_TOKEN' -d '{ "age": 33, "children": 0, "education": "High School", "gender": "Female", "income": 100000, "is_smoker": false, "marital_status": "Married", "race": "White", "sex": "Female", "smoker": false, "age": 33, "children": 0, "education": "High School", "gender": "Female", "income": 100000, "is_smoker": false, "marital_status": "Married", "race": "White", "sex": "Female", "smoker": false }
```

hi-AIII

Created Oct 16, 2020 5:54 PM

Updated Oct 16, 2020 5:54 PM

Deployment ID d555e078-9b61-4e19-8987-d...

Software specification hybrid_0.1

Hybrid pipeline software specifications autoai-kb_3.1-py3.7

Copies 1

Description No description provided.

Associated asset

Dr Dharmaiah Devapalli.pdf download.png JNTUK Permanent...xlsx regdataalreadysub...zip Show all

Type here to search 19:09 16-10-2020

Creation of the node red

The screenshot shows the IBM Cloud Resource List interface. On the left, a sidebar lists various service categories under 'Classic Infrastructure' and 'VPC Infrastructure'. The main area displays a table of resources. One row is selected, showing a 'Node.js' application named 'Node RED DROKN 2020-10-16' created on 2020-10-16 by 'devarapalli.dharma@gmail.com / dev' in 'London' with the 'SDK for Node.js' offering, currently 'Started'. The table has columns for Name, Group, Location, Offering, Status, and Tags.

Select cloudfoundry app

This screenshot is identical to the one above, but the 'Node.js' application row is highlighted with a black background, indicating it is selected or being focused on.

It creates the Node red with one instance:

The screenshot shows the IBM Cloud interface for a Node-RED application named "Node RED DROKN 2020-10-16". The "Overview" tab is selected. Key metrics displayed include:

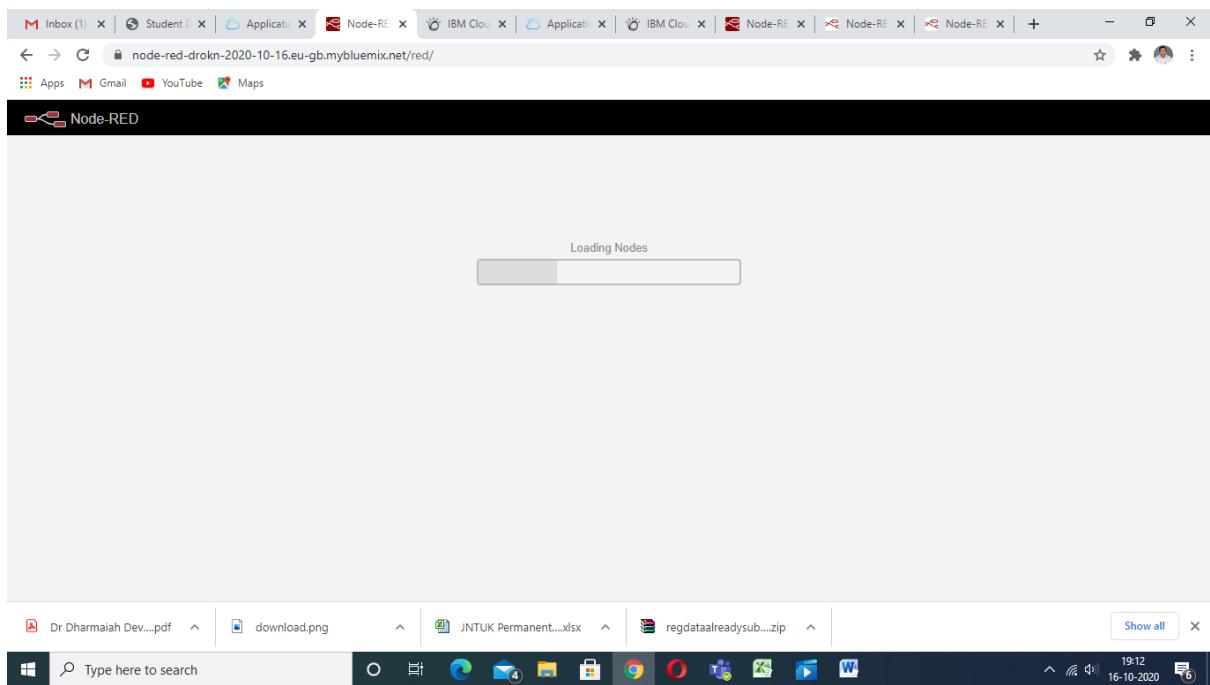
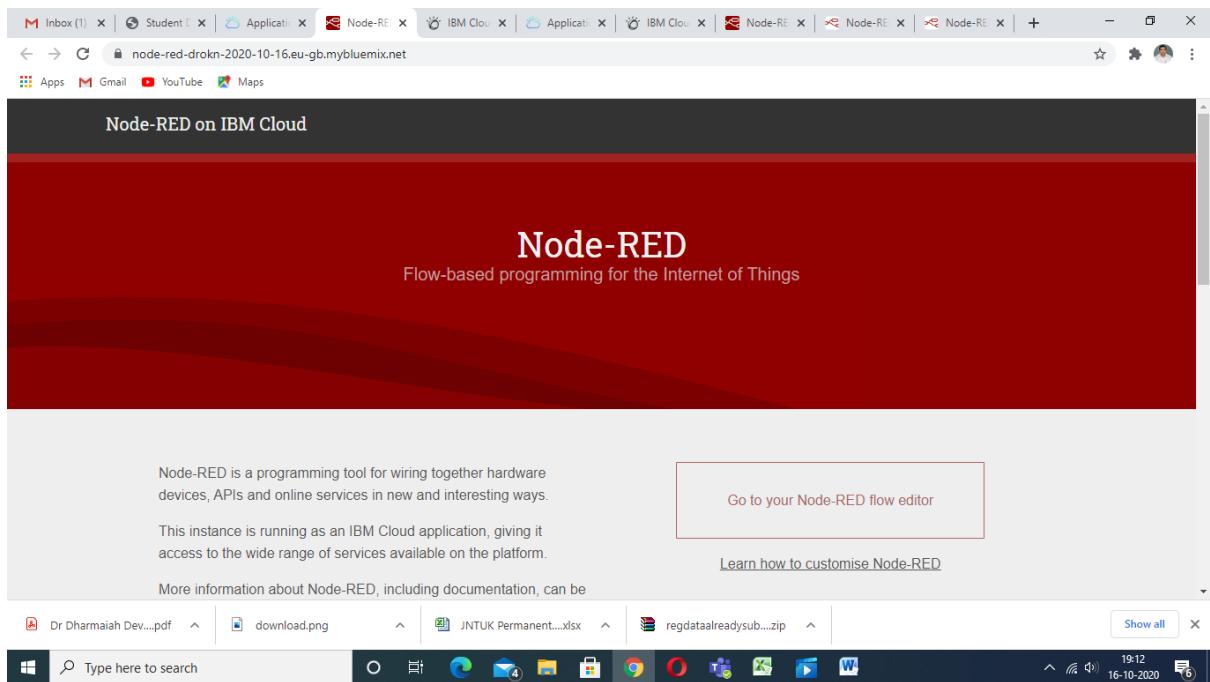
- Instances:** 1 instance running at 100% health.
- MB memory per instance:** 256 MB allocated.
- Runtime cost:** \$0.00 current charges and estimated total for Oct 1, 2020 - Oct 31, 2020.
- Connections:** 1 connection to "node-red-rzshb-2020--cloudant-1602843383515-16086".

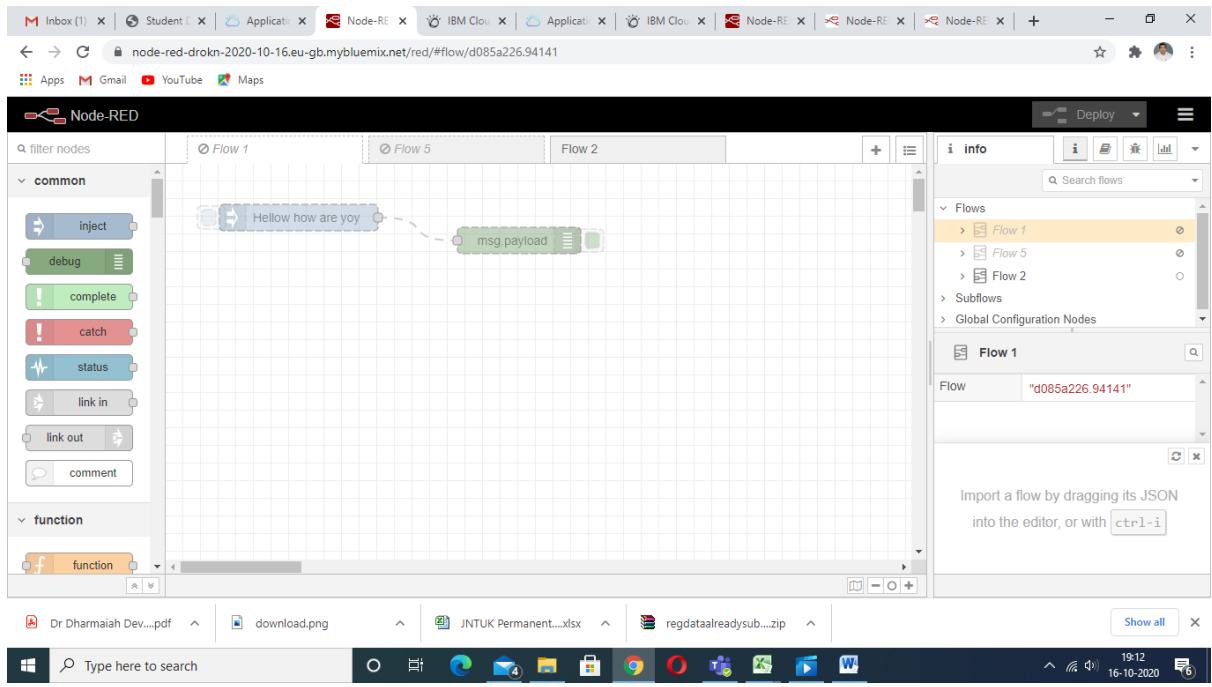
The interface also includes a search bar, navigation links for Catalog, Docs, Support, Manage, and a user profile for "Dharmaiah Devarapalli's...". A "Feedback" button is visible on the right.

Click on visit vrl

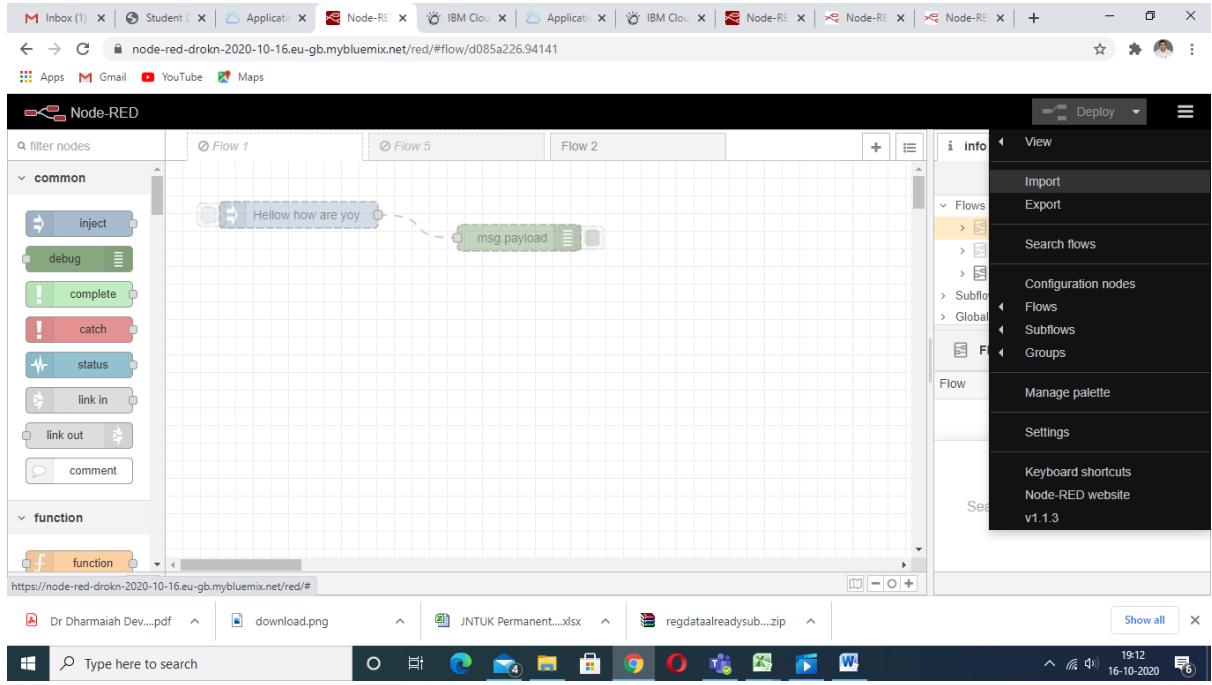
The screenshot shows the same IBM Cloud interface for the "Node RED DROKN 2020-10-16" application. The "Overview" tab is selected. The URL <https://node-red-drokn-2020-10-16.eu-gb.mybluemix.net> is highlighted in blue and appears to be copied to the clipboard, as indicated by the blue border around the URL field.

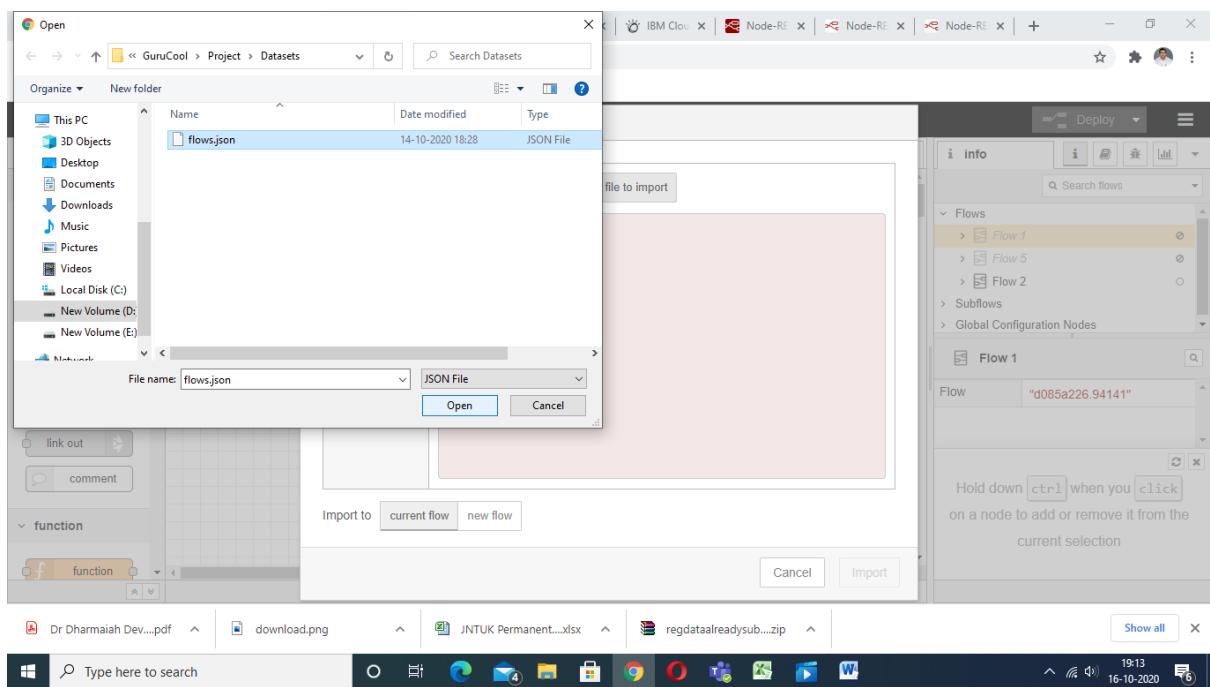
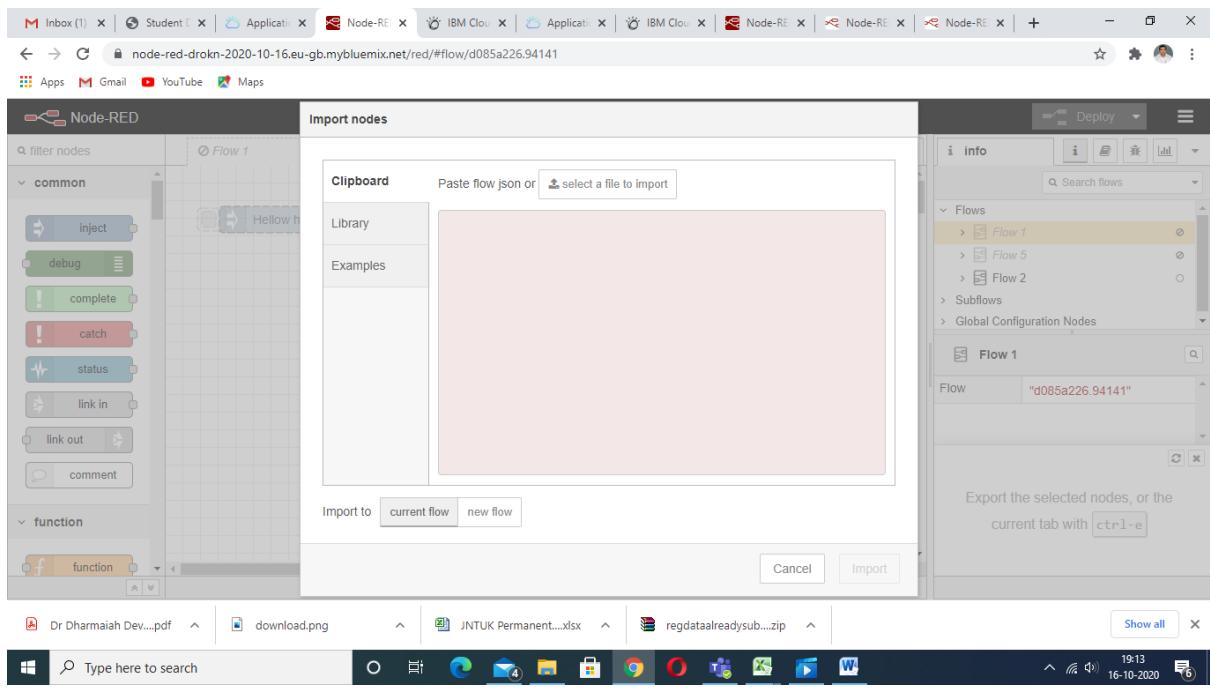
Opened node red

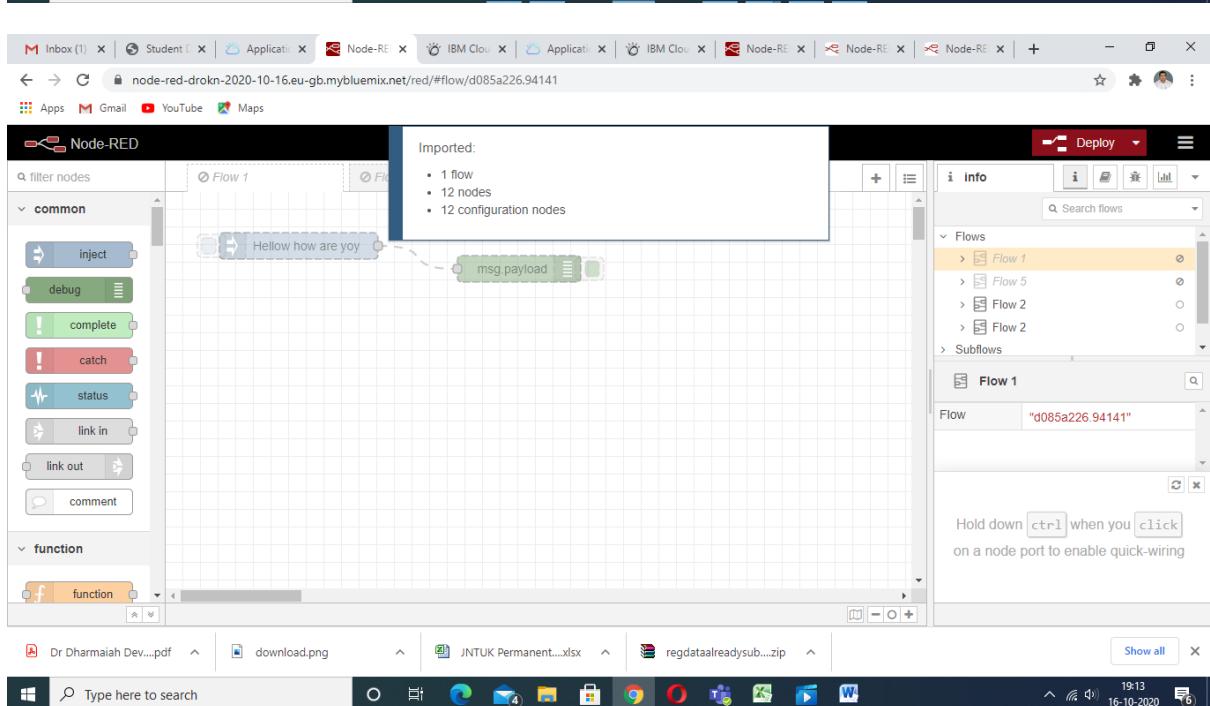
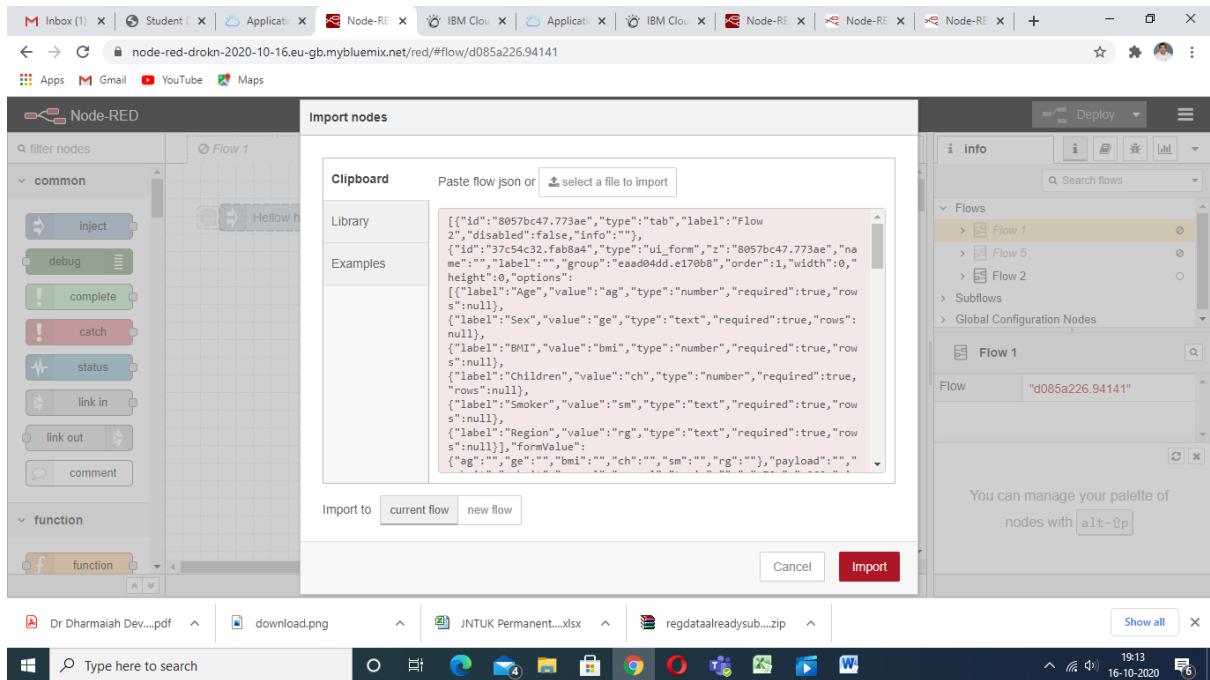


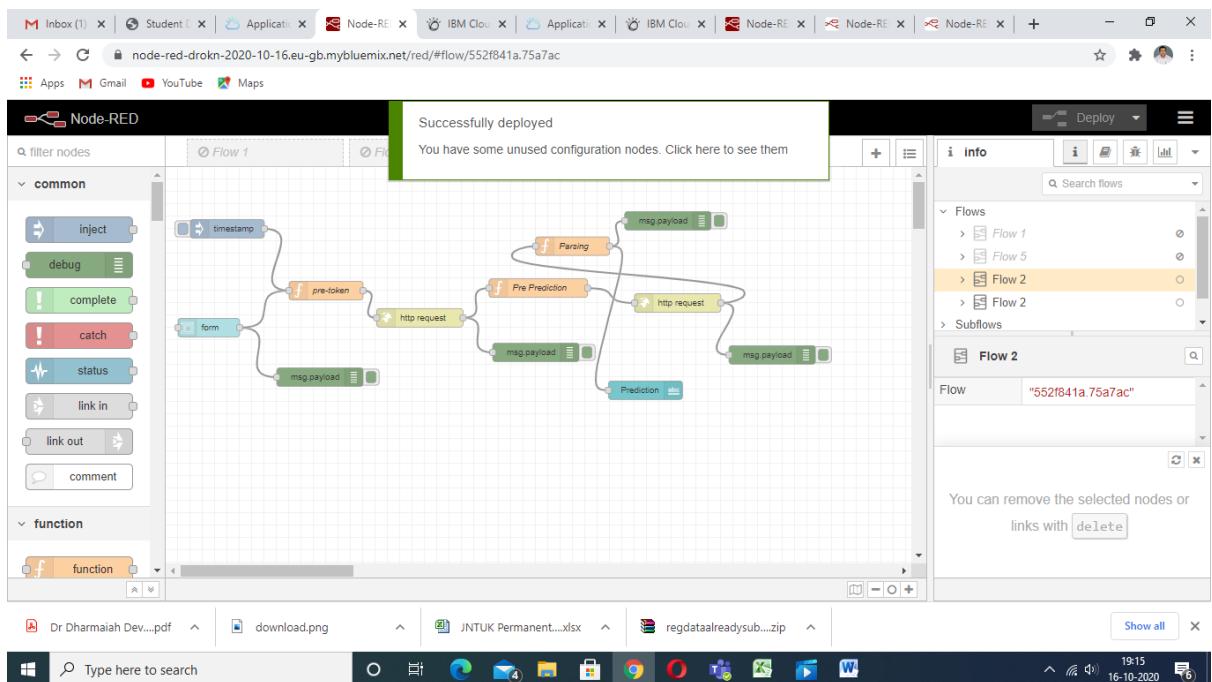
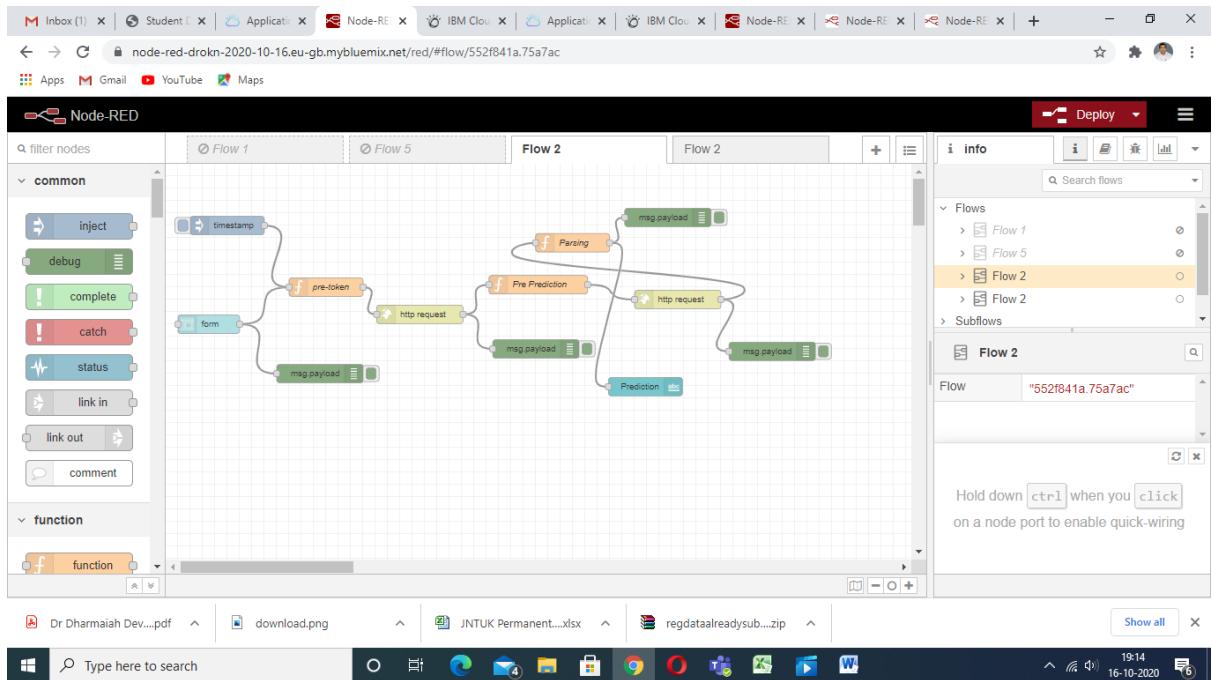


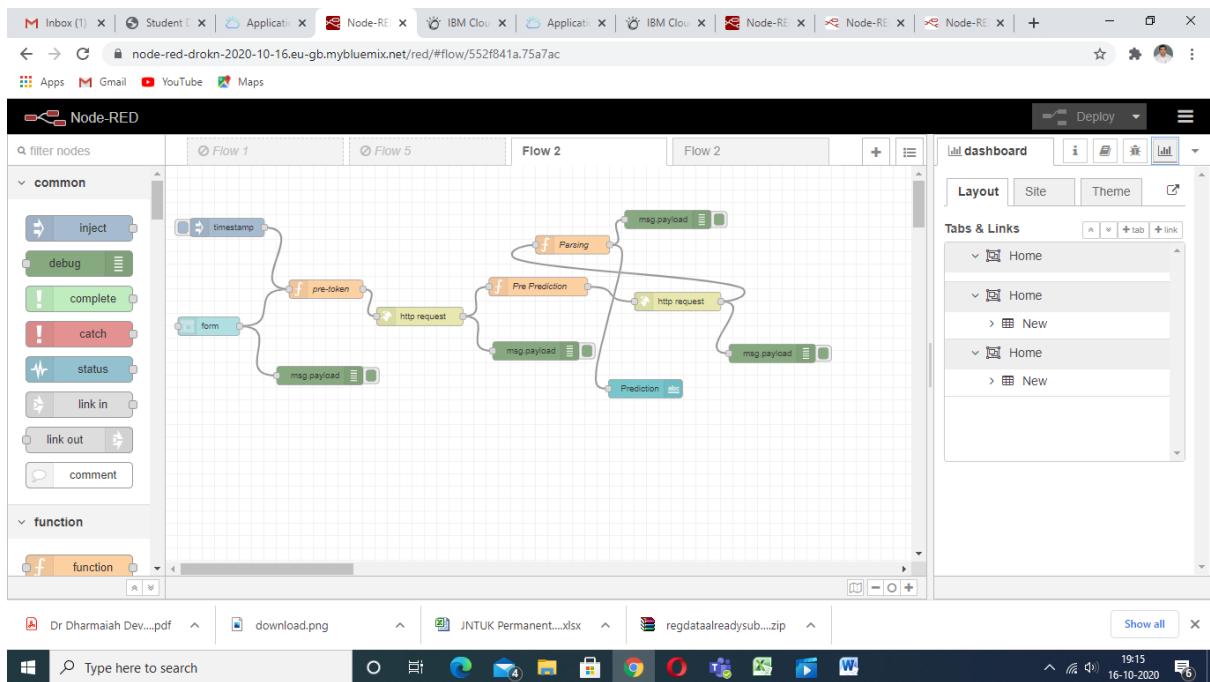
Import the json file











Result Screen

New

Age *
56

Sex *
female

BMI *
35

Children *
3

Smoker *
no

Region *
southeast

Prediction
14593.557454518315