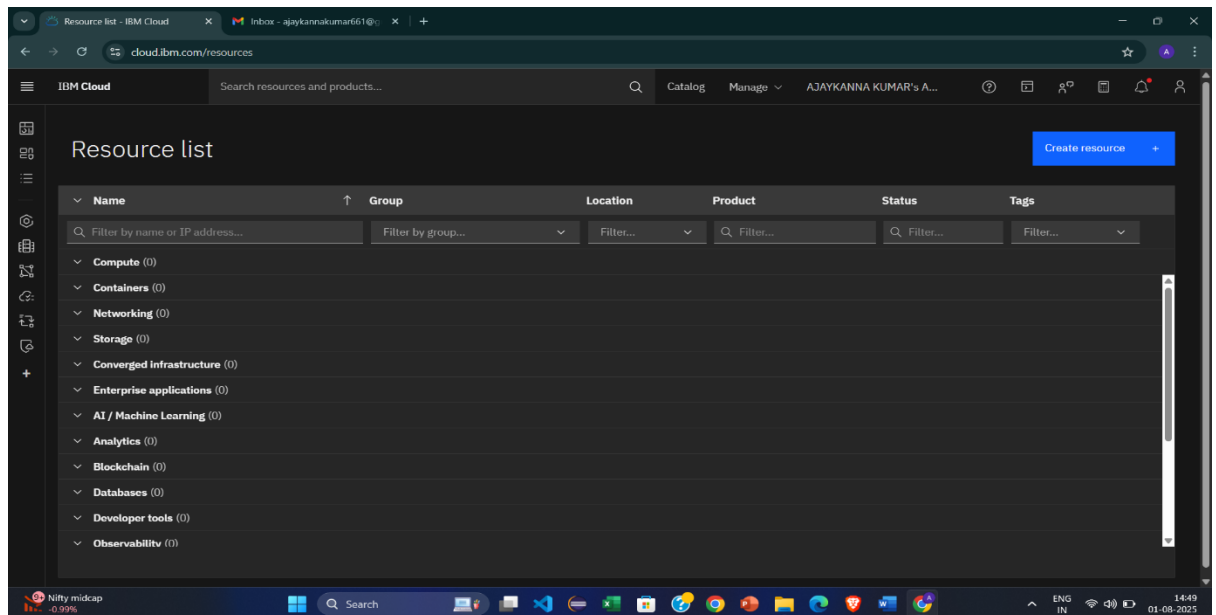


PS-39 Predictive Maintenance of Industrial Machinery

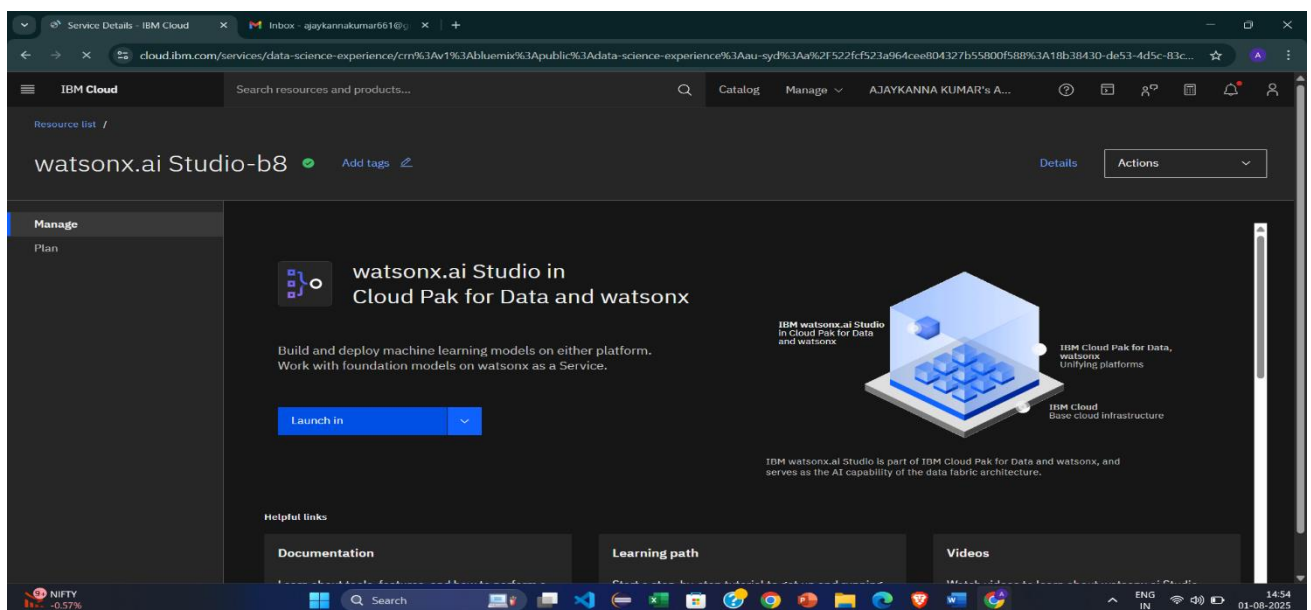
Step 1: Login to IBM Cloud by using Credentials

Step 2: Visit the Resource List and Clean the Resource List.

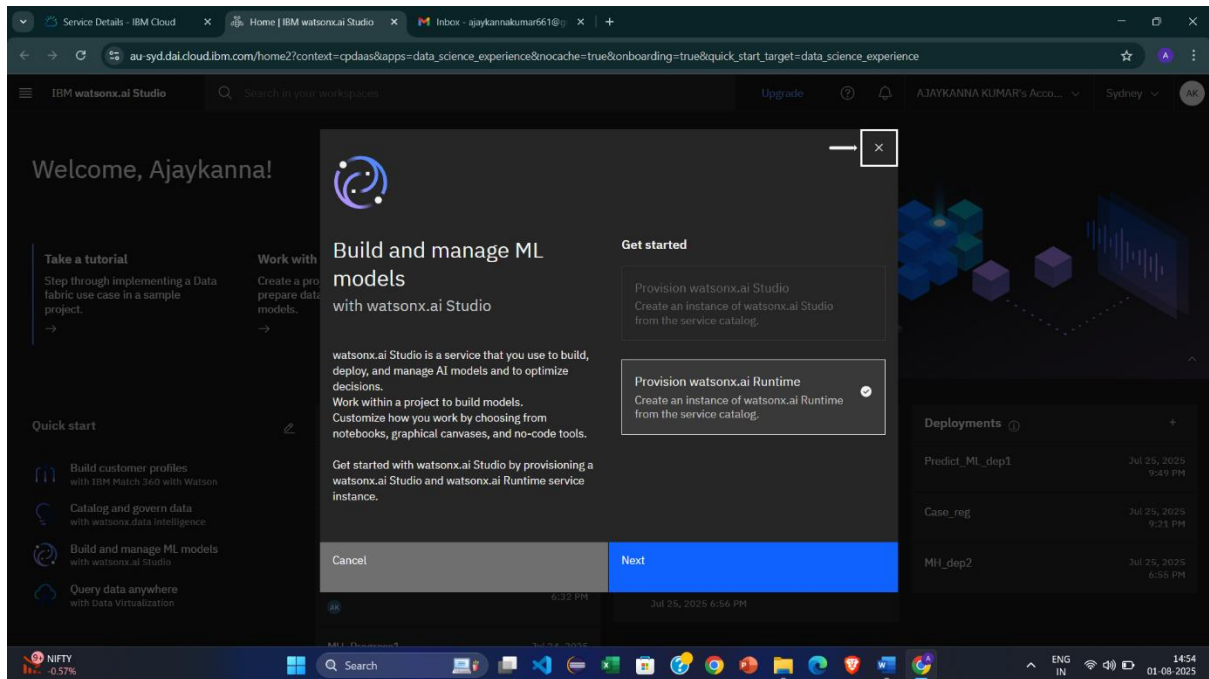
[**Note:** We are Using Lite Version, So, We have able to create a one Instance only].



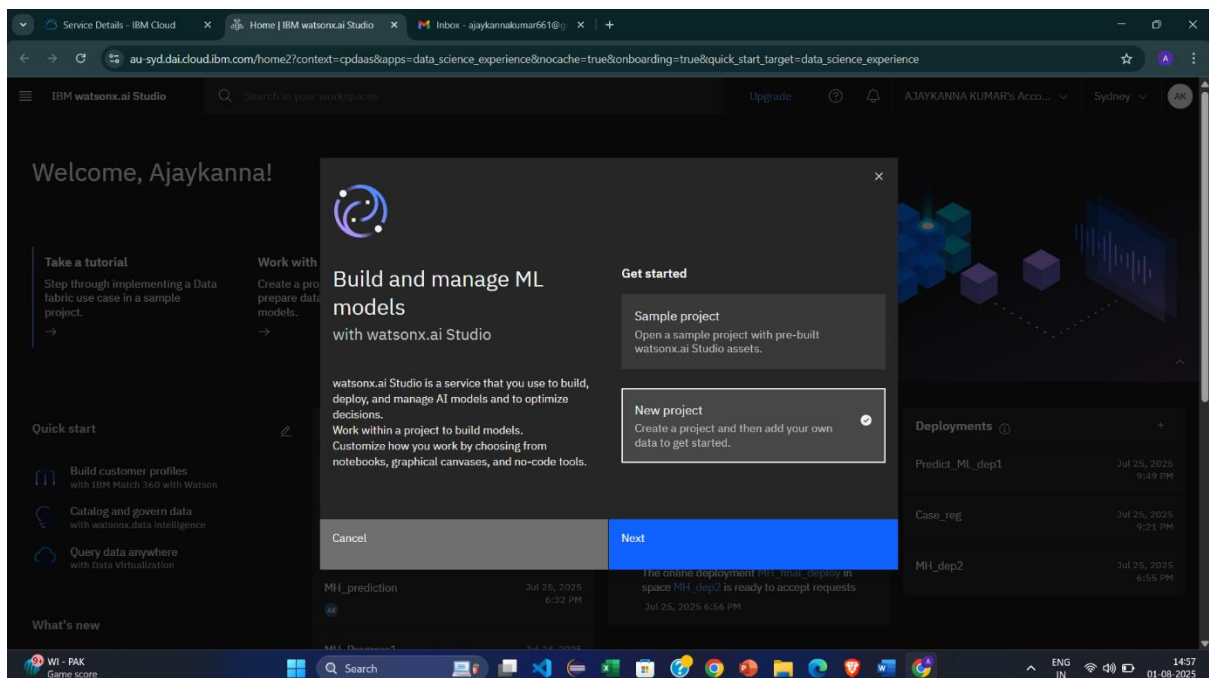
Step 3: Go to the “**Watsonx.ai Studio Service**” in IBM Cloud and Select the service and create an One Instance.



Step4: Create an Runtime which contains Hardware and Software to run an Instance. [Runtime=PowerHouse].



Step5: Create an new Project by clicking on New Project tab after the Runtime.



Step6: Give name of Our Project and then add the Storage space also for the Project by Clicking on add(+) icon.

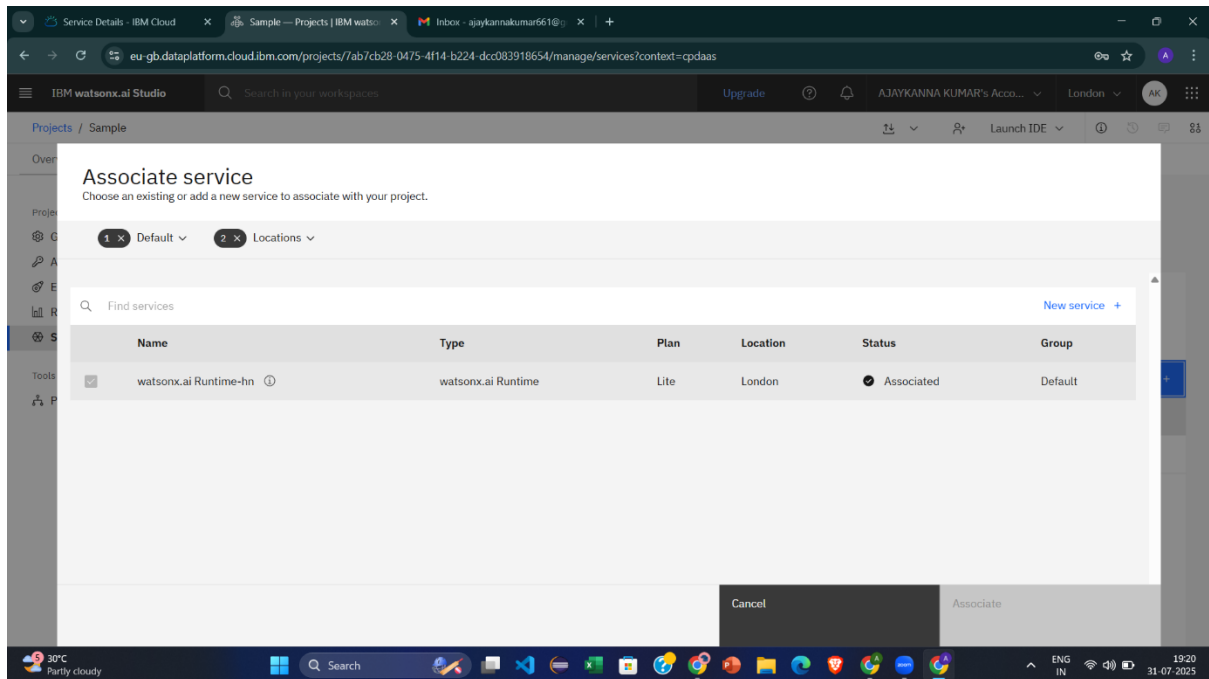
The screenshot shows the 'Create a project' page in IBM Watson AI Studio. The browser address bar shows the URL: `au-syd.dai.cloud.ibm.com/projects/new-project?context=cdaas`. The page title is 'Create a project' with a subtitle 'Start with a new, blank project or select from where to import an existing project.' On the left, there is a sidebar with a '+ New' button and two options: 'Local file' and 'Sample'. The main form has a text input for the project name, which currently contains 'PM_ML'. Below this is a 'Description (optional)' section with a text area containing the placeholder 'What's the purpose of this project?'. There is also a 'Tags (optional)' section with a text input for 'Add tags' and a note: 'Add tags to make projects easier to find. To add tags, separate them with commas and press Enter.' The 'Define storage' section has a step indicator '1' and a button 'Select storage service'. Below this is an 'Add' button with the text 'Add an object storage instance, and then return to this page and click Refresh.' At the bottom right of the form are 'Cancel' and 'Create' buttons. The Windows taskbar at the bottom shows the date as 01-08-2025 and time as 14:59.

The screenshot shows the 'Cloud Object Storage' pricing page in the IBM Services catalog. The browser address bar shows the URL: `au-syd.dai.cloud.ibm.com/data/catalog/cloud-object-storage?context=cdaas&target=cloud-object-storage&closeTab=true`. The page title is 'Cloud Object Storage' with 'Author: IBM' and 'Date of last update: Apr 15, 2025'. There are 'Create' and 'About' tabs. The 'Pricing plan' section states 'Displayed prices do not include tax. Monthly prices shown are for country or region: United States'. It contains a table with three plans: 'One-Rate', 'Lite(deprecated)', and 'Standard'. The 'One-Rate' plan is highlighted. On the right, a 'Summary' sidebar shows details for 'Cloud Object Storage': Region: Global, Plan: One-Rate, Service name: Cloud Object Storage-so, and Resource group: Default. At the bottom right of the sidebar are 'Create', 'View terms', and 'Cancel' buttons. The Windows taskbar at the bottom shows the date as 01-08-2025 and time as 14:59.

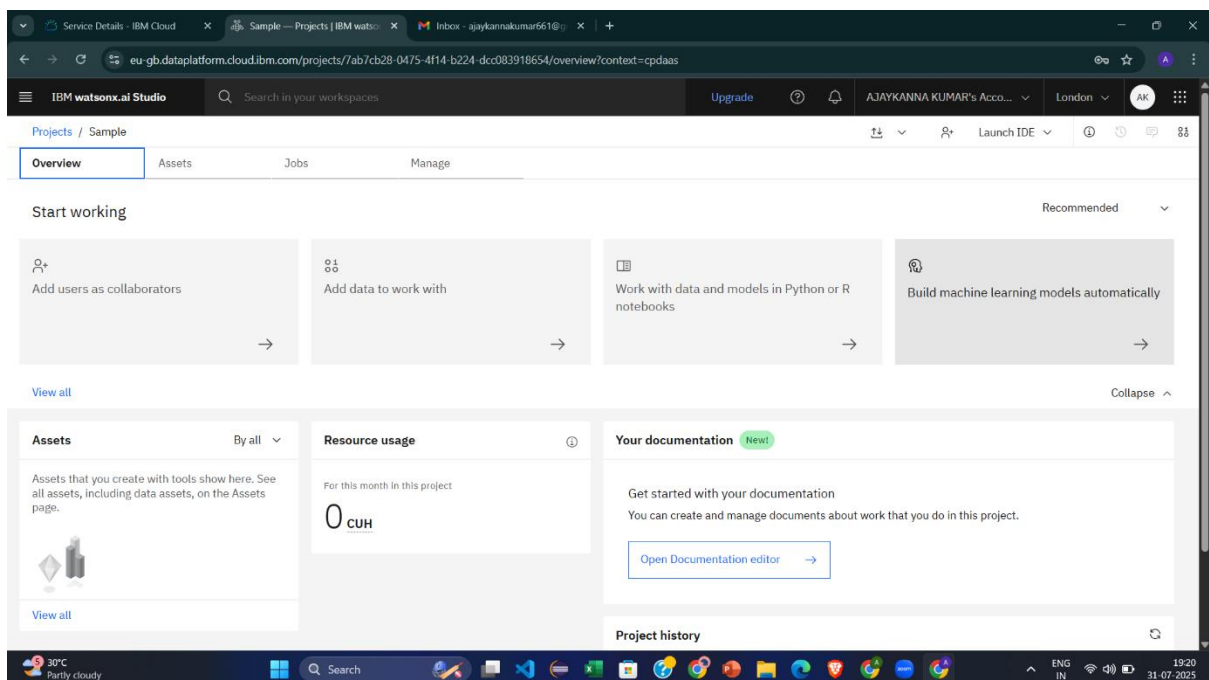
Plan	Features	Pricing
One-Rate	One-Rate Plan is a Pay-as-You-Go option with a single, flat monthly rate (\$/GB) that includes storage, API operations, retrieval, and outbound bandwidth—making it ideal for high-activity workloads with frequent access and data transfer, such as analytics, media, and web apps. The plan includes built-in allowances that scale with stored capacity and offers automatic volume discounts as usage grows	
Lite(deprecated)	Lite plan instance is free to use for Storage capacity up to 25 GB per month. Lite plan instance is used for trial, and can be easily upgraded to Standard plan for unlimited scalability and full functionality.	Free
Standard	Standard Plan is a flexible Pay-as-You-Go option with no minimum fee—ideal for workloads with large storage needs but low or infrequent access and outbound traffic. It includes a Free Tier with 5GB of	

[Note: Click on Free Pricing only for the Lite Version]

Step 7: Switch to the manage tag and Click on the Associate Service and add associate the Runtime service to the Project.

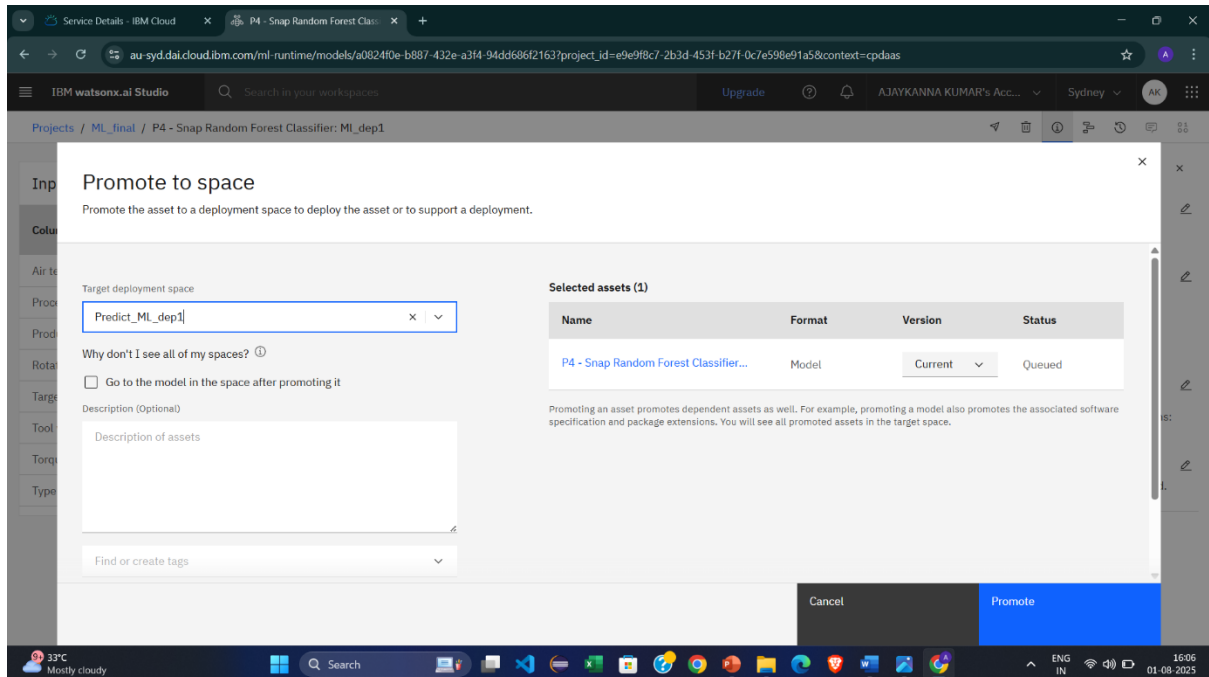


Step 8: Click on “**Build an Machine Learning Model**” and add your data to train the model.

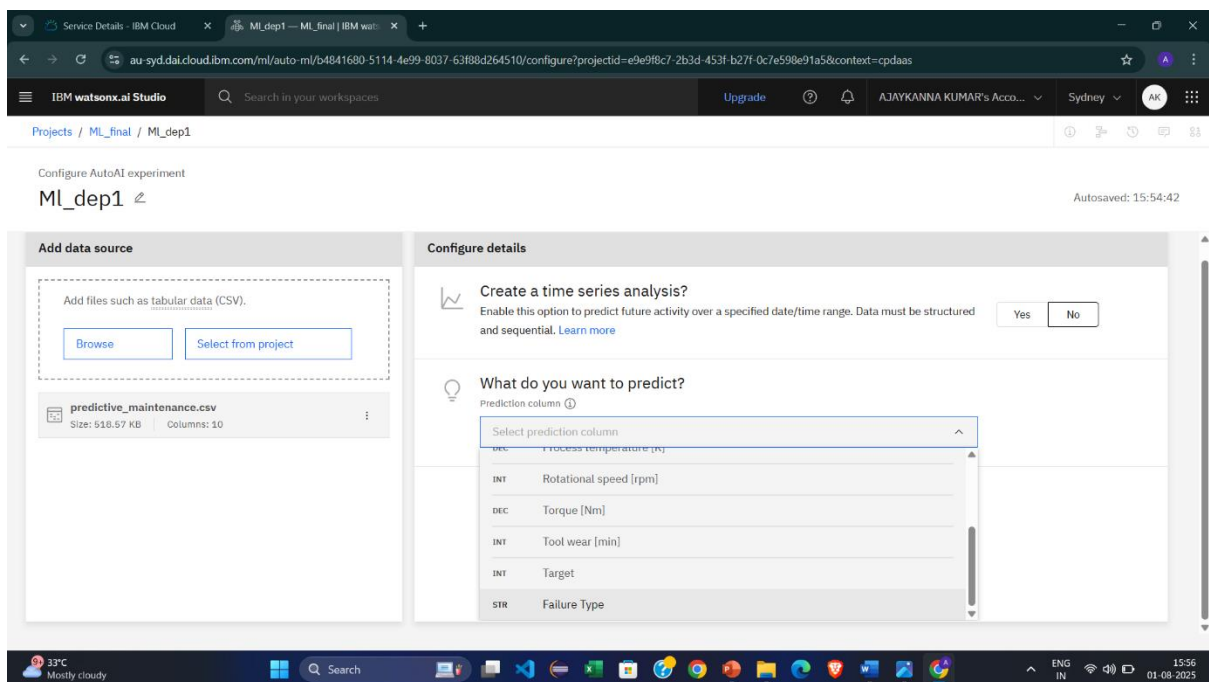


Step 9: Add the DataSet You want to predict.

Step 10: Click on the Promote to Space and also add the Deployment Space.



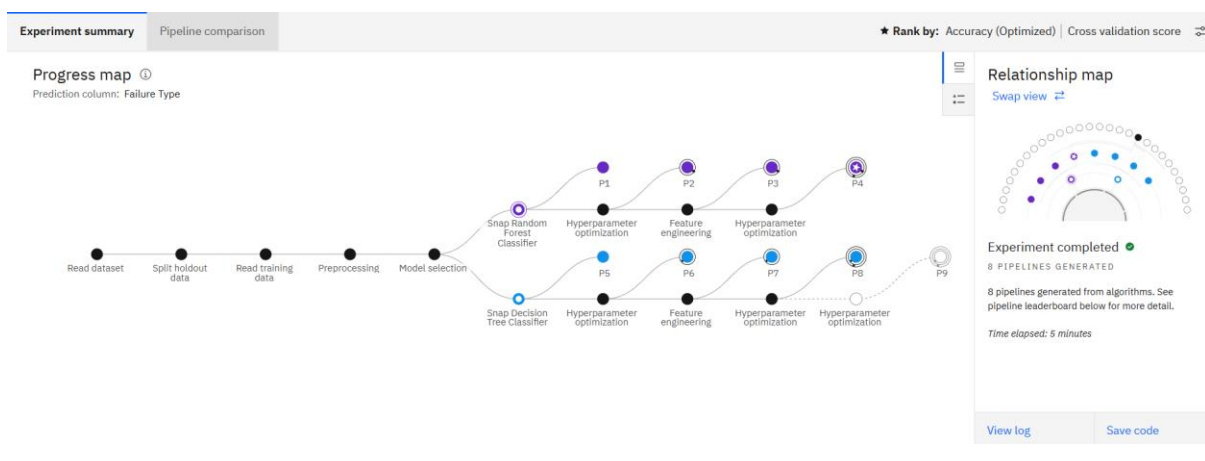
Step 11: Identify a MultiClass Classification Row and make that Column to Train a model.



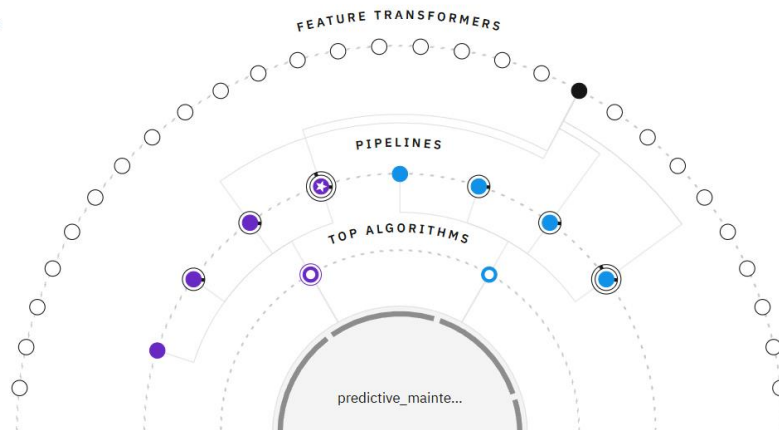
Step 13: Click on Run Experiment to Run a model and take the algorithm which gives the highest accuracy among the models.

	Rank ↑	Name	Algorithm	Specialization	Accuracy (Optimized) Cross Validation	Enhancements	Build time
★	1	Pipeline 4	◉ Snap Random Forest Classifier		0.995	HPO-1 FE HPO-2	00:00:42
	2	Pipeline 3	◉ Snap Random Forest Classifier		0.995	HPO-1 FE	00:00:34
	3	Pipeline 8	◉ Snap Decision Tree Classifier		0.994	HPO-1 FE HPO-2	00:00:27
	4	Pipeline 2	◉ Snap Random Forest Classifier		0.994	HPO-1	00:00:13

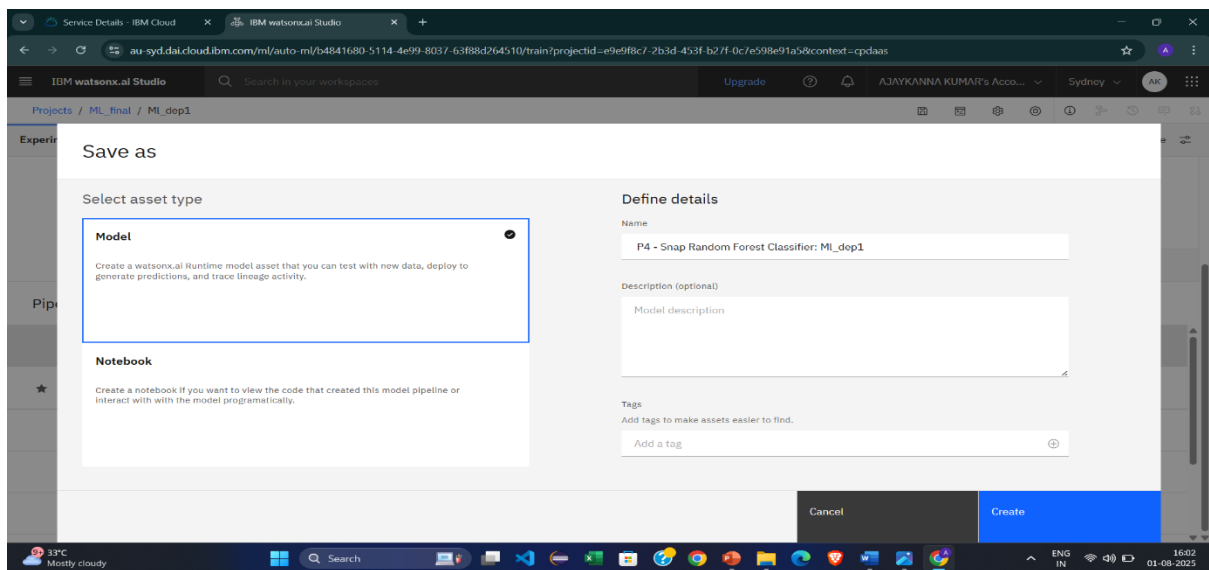
Step 14: After running Experiment, see the Flow of Running of ML Model.



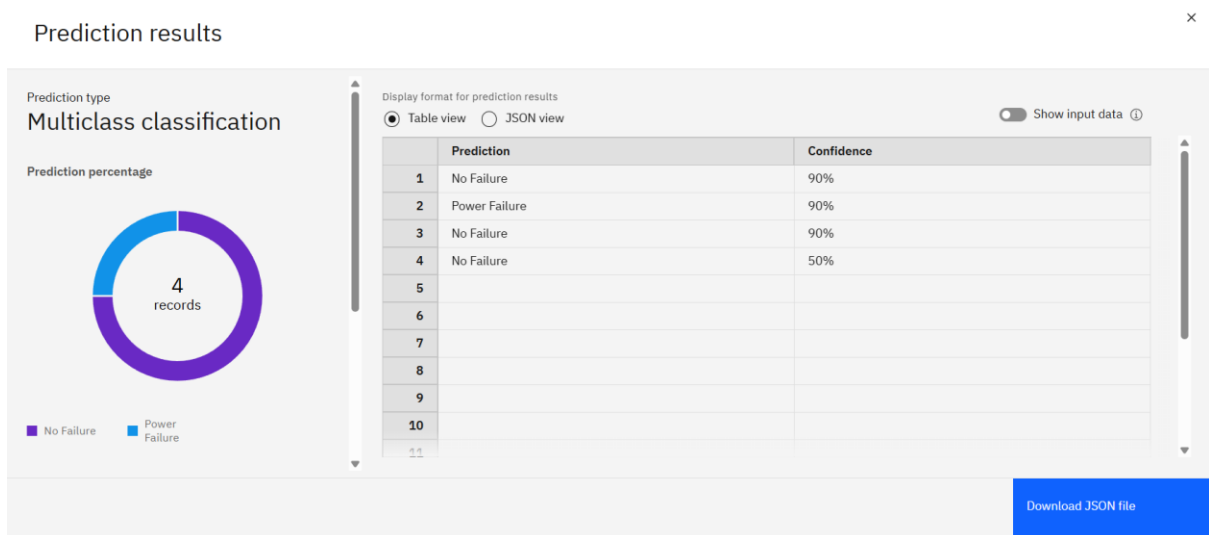
Relationship map ⓘ
Prediction column: Failure Type



Step15: Click on Save button and name the model and Click on create.



Step 16: Give our Inputs and predict the Results from our trained data.



Based on the Results, we can take our decision on the Confidence meter.

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