

STEP BY STEP PROCEDURE TO DO THE PROBLEM STATEMENT ON IBM CLOUD FOR MACHINE LEARNING PROJECT

MECHANICAL ENGINEERING: (MACHINE LEARNING PROJECT)

PROBLEM STATEMENT NO.39 – PREDICTIVE MAINTENANCE OF INDUSTRIAL MACHINERY

The Challenge:

Develop a predictive maintenance model for a fleet of industrial machines to anticipate failures before they occur. This project will involve analyzing sensor data from machinery to identify patterns that precede a failure. The goal is to create a classification model that can predict the type of failure (e.g., tool wear, heat dissipation, power failure) based on real-time operational data. This will enable proactive maintenance, reducing downtime and operational costs.

Kaggle dataset link – <https://www.kaggle.com/datasets/shivamb/machine-predictive-maintenance-classification>

STEP 1: LOG IN TO IBM CLOUD ACCOUNT AND FROM THE LEFT SIDE NAVIGATION BAR CLICK RESOURCE LIST AND DELETE IF ANY RESOURCE CREATED PREVIOUSLY.

The screenshot shows the 'Resource list - IBM Cloud' interface. On the left, there is a vertical sidebar with various icons: a grid icon (highlighted with an orange arrow), a hexagon icon, a square icon, a gear icon, a circular icon, a plus sign icon, and a minus sign icon. The main area is titled 'Resource list' and contains a table with columns: Name, Group, Location, Product, and Status. The 'Name' column is sorted by name. There are several resource categories listed: 'Converged infrastructure (0)', 'Enterprise applications (0)', 'AI / Machine Learning (0)', 'Analytics (0)', 'Blockchain (0)', 'Databases (0)', 'Developer tools (0)', 'Observability (0)', 'Migration (0)', 'Integration (0)', 'Internet of Things (0)', and 'Security (0)'. A red box highlights the entire list of resources. At the top right, there is a blue button labeled 'Create resource' with a '+' sign. The browser address bar shows 'https://cloud.ibm.com/resources'.

STEP2: ON THE SEARCH BAR SEARCH FOR Watsonx.ai Studio AND CLICK ON IT.

The screenshot shows the IBM Cloud Resource list interface. In the top right corner, there is a search bar with the text "watsonx.ai stud". An orange arrow points from the text "ON THE SEARCH BAR SEARCH FOR Watsonx.ai Studio AND CLICK ON IT." to the search bar. Below the search bar, the results are displayed under "Catalog Results". The first result is "watsonx Service" and the second result is "watsonx.ai Studio Service". An orange arrow points from the text "SELECT PRICING PLAN TO FREE, AND CLICK THE RIGHT SIDE BOX AND CLICK CREATE" to the "watsonx.ai Studio Service" entry. The rest of the page shows a sidebar with categories like Compute, Containers, Networking, Storage, etc., and a main area with a "Resource list" title and a table of resources.

STEP 3: SELECT LOCATION TO LONDON OR ANY REGION , SELECT PRICING PLAN TO FREE, AND CLICK THE RIGHT SIDE BOX AND CLICK CREATE

The screenshot shows the Watsonx.ai Studio catalog page. On the left, there is a sidebar with details about the service: Type: Service, Provider: IBM, Last updated: 05/06/2025, Category: AI / Machine Learning, Compliance: HIPAA Enabled, IAM-enabled, Location: Sydney (au-syd), Frankfurt (eu-de), London (eu-gb), Tokyo (jp-tok), Dallas (us-south), Toronto (ca-tor). The main area has tabs for "Create" and "About". Under "Create", there is a "Select a location" dropdown set to "London (eu-gb)". An orange arrow points from the text "SELECT LOCATION TO LONDON OR ANY REGION" to this dropdown. Below it is a "Select a pricing plan" section with a table:

Plan	Features and capabilities	Pricing
Lite	1 authorized user 10 capacity unit-hours monthly limit Environment = # of capacity units required per hour • 1 vCPU + 4 GB RAM = 0.5 • 2 vCPU + 8 GB RAM = 1 • 4 vCPU + 16 GB RAM = 2 • Decision Optimization + Watson NLP = Environment + 5 • Synthetic Data Generator, 2 vCPU + 8 GB RAM = 7 (requires watsonx.ai Runtime)	Free

An orange arrow points from the text "SELECT PRICING PLAN TO FREE" to the "Pricing" column. To the right of the table, there is a "Summary" section with details: Watsonx.ai Studio, Location: London (eu-gb), Plan: Lite, Service name: Watsonx.ai Studio, Resource group: Default. At the bottom right, there is a "Create" button with an orange arrow pointing to it. A checkbox for "I have read and agree to the following license agreements" is checked, and there is a "Terms" link. Below the "Create" button is a "Add to estimate" button.

STEP 4: NOW ON THIS PAGE CLICK ON LAUNCH IN

The screenshot shows the IBM Cloud Service Details page for 'watsonx.ai Studio-gh'. The main heading is 'watsonx.ai Studio in Cloud Pak for Data and watsonx'. Below it, a text box says: 'Build and deploy machine learning models on either platform. Work with foundation models on watsonx as a Service.' A large blue 'Launch in' button is highlighted with a red arrow. To the right, there's a diagram showing 'IBM WatsonX.ai Studio in Cloud Pak for Data and watsonx' built on 'IBM Cloud Base cloud infrastructure'. At the bottom, there are 'Helpful links' for Documentation, Learning path, and Videos.

STEP 5: CLICK ON PROVISION WATSONX.AI RUNTIME AND CLICK NEXT

The screenshot shows the 'Home | IBM WatsonX.ai Studio' page. It features a 'Welcome, Aninda!' message and several quick start options. In the center, there's a 'Build and manage ML models with WatsonX.ai Studio' section. Two buttons are highlighted with red boxes: 'Provision watsonx.ai Runtime' (which creates an instance from the service catalog) and 'Next' (which is part of a provisioning process). A red arrow points to the 'Provision watsonx.ai Runtime' button. The bottom of the screen shows a taskbar with various icons.

STEP 6 : IN THIS PAGE CLICK ON REGION AND CHOOSE ANY REGION AND CHOOSE FREE PRICING PLAN BELOW AND THEN CLICK CREATE

Select a region

London

Pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or region: United States

Plan	Features	Pricing
Lite	Service instance Instance includes: <ul style="list-style-type: none">• 20 capacity unit-hours (CUH) per month• 50,000 tokens/data points per month• 100 pages per month ----- Foundation models: <ul style="list-style-type: none">• Inferencing for text generation consumes tokens (as Resource Units)• Token usage is the sum of input and output tokens• Time series forecasting consumes data points (as Resource Units)• Data point usage is the sum of input and output data points ----- Text extraction: <ul style="list-style-type: none">• Each document page or image file or .tiff frame is considered 1	Free

Summary

watsonx.ai Runtime

Region: London

Plan: Lite

Service name: watsonx.ai Runtime-lb

Resource group: Default

Create

View terms

Cancel

STEP 7: CHOOSE NEW PROJECT AND CLICK NEXT

Welcome, Aninda!

Take a tutorial

Step through implementing a Data fabric use case in a sample project.

Work with

Create a project to prepare data models.

Build and manage ML models with Watsonx.ai Studio

watsonx.ai Studio is a service that you use to build, deploy, and manage AI models and to optimize decisions. Work within a project to build models. Customize how you work by choosing from notebooks, graphical canvases, and no-code tools.

Get started

Sample project

Open a sample project with pre-built Watsonx.ai Studio assets.

New project

Create a project and then add your own data to get started.

Next

Cancel

Knowledge Accelerator for Energy

IBM Knowledge Accelerators offer pre-created, energy and utilities based glossaries to improve data...

Online deployment ready

STEP 8 : CHOOSE PROJECT NAME , GIVE ANY DESCRIPTION OPTIONAL, THEN CLICK ADD

Create a project

Start with a new, blank project or select from where to import an existing project.

Define details

Name: PredInudus_ML

Description (optional): predicts failure type

Tags (optional): Add tags

Define storage

① Select storage service [Add](#)

Cancel Create

STEP 9: CHOOSE FREE PLANE AND CLICK CREATE

Service Details - IBM Cloud New project | IBM Watson AI Studio Cloud Object Storage — Services

Author: IBM • Date of last update: Apr 15, 2025 • Docs • API Docs

Pricing plan
Displayed prices do not include tax. Monthly prices shown are for country or region: United States

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. None Lite plan services are deleted after 30 days of inactivity.	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 Smart Tier storage for 12 months. Charges are based on actual usage, with separate billing for storage, outbound bandwidth, API operations, and data retrieval. Multiple storage classes help you optimize costs based on how often data is accessed. Free Tier allowance: Storage up to 5GB/month Up to 2000 Class A requests/month	

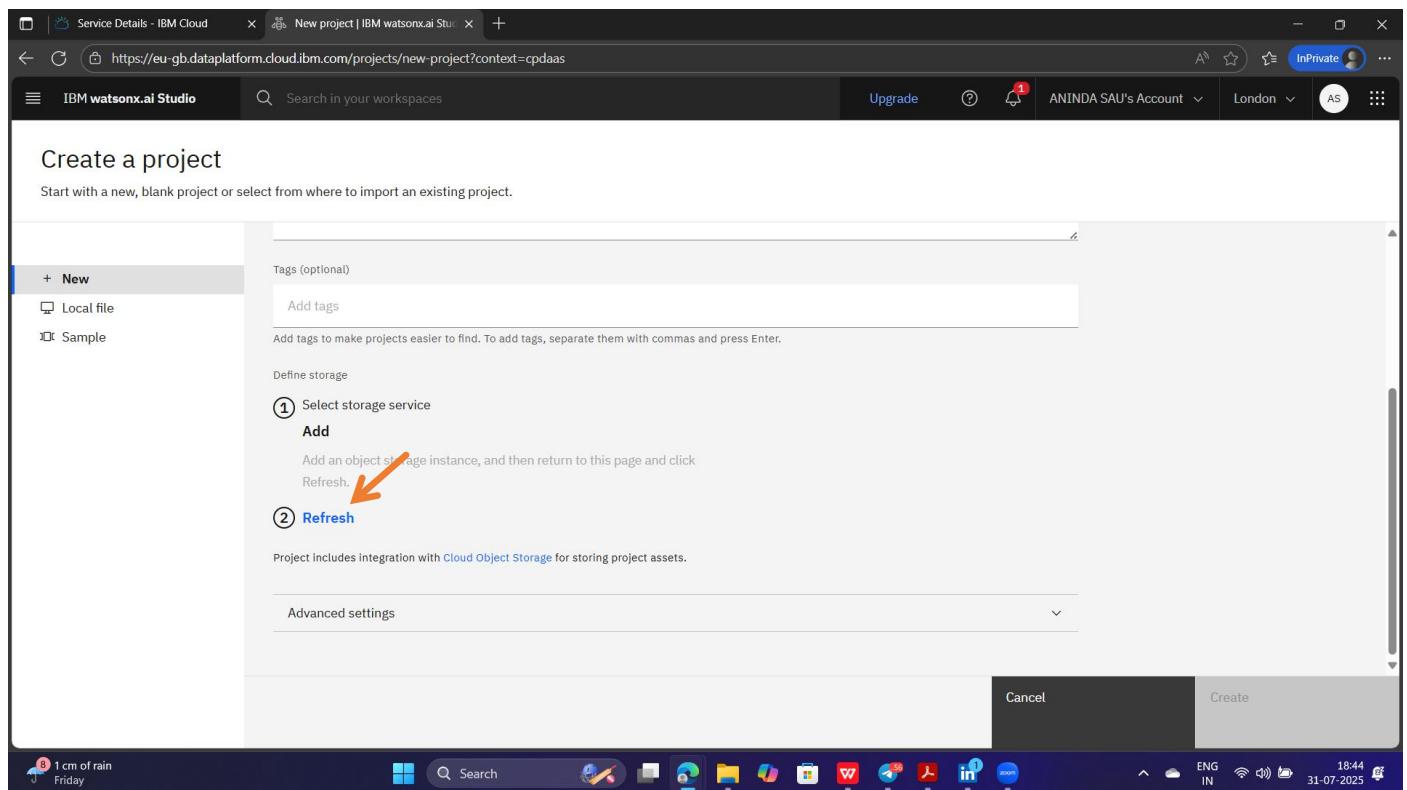
Summary

Cloud Object Storage

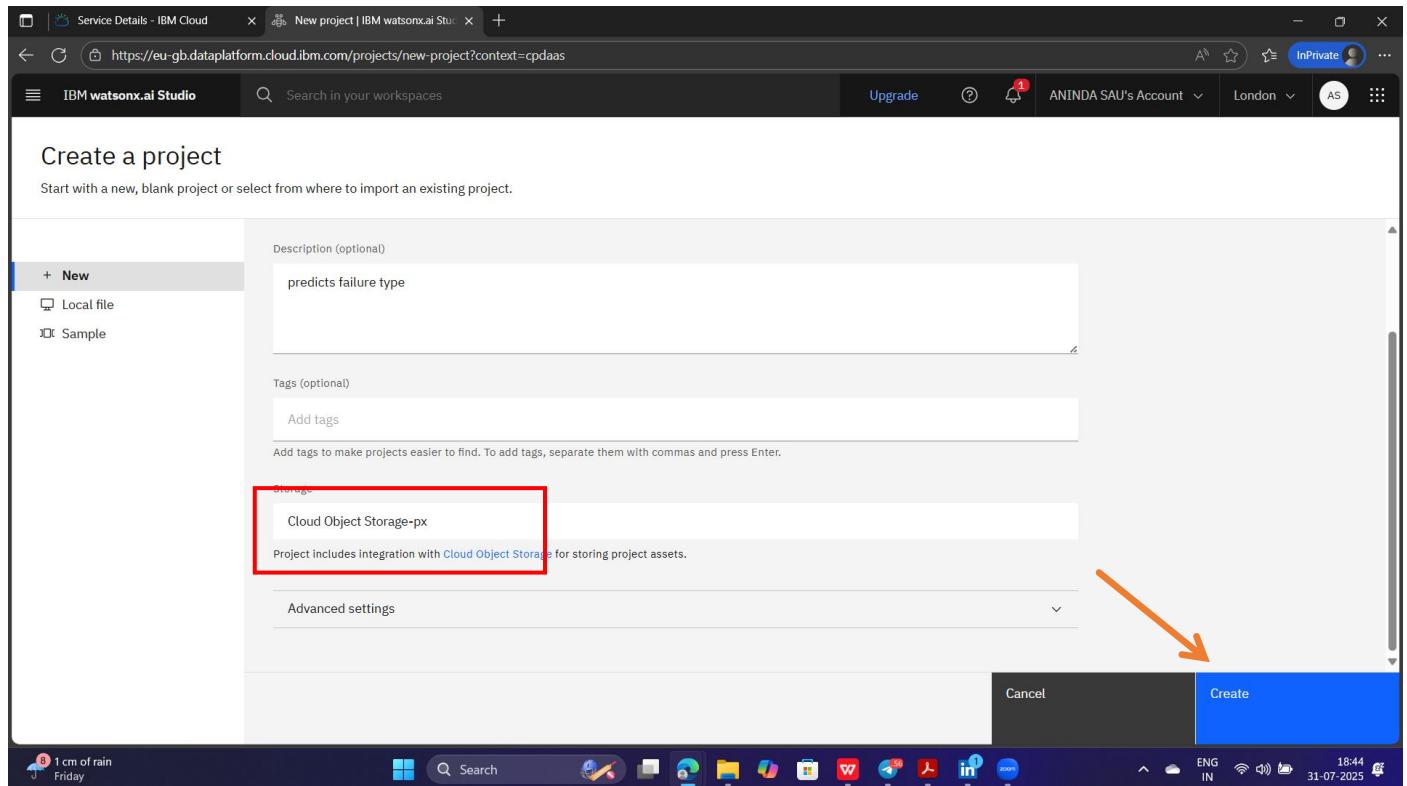
Region: Global
Plan: Lite(deprecated)
Service name: Cloud Object Storage-px
Resource group: Default

Create View terms Cancel

STEP 10 : CLICK REFRESH THAT WILL SHOWCASE AFTER



STEP 11: WHEN STORAGE SHOWCASE CLICK CREATE



STEP 12: IN THIS PAGE CLICK MANAGE TAB THEN ON LEFT SIDE GO SERVICE & INTEGRATION AND CLICK ASSOCIATE SERVICE

The screenshot shows the IBM Watsonx.ai Studio interface. At the top, there are two tabs: "Manage" (which is highlighted with an orange arrow) and "Overview". On the left sidebar, under the "Services & integrations" heading, there are several options: General, Access control, Environments, Resource usage, and Pipeline (which is highlighted with an orange arrow). In the main content area, there's a section titled "Services & integrations" with tabs for "IBM services" (selected) and "Third-party integrations". Below this, there's a search bar and a table with columns for "Name" and "Service type". A large red box highlights the "Associate service" button at the bottom right of the table.

STEP 13: CLICK THE CHECK BOX AND CLICK ASSOCIATE BUTTON.

The screenshot shows the "Associate service" dialog box. At the top, it says "Associate service" and "Choose an existing or add a new service to associate with your project." Below this, there are two dropdown menus: "Default" and "Locations". The main area is a table with columns: Name, Type, Plan, Location, Status, and Group. One row is visible, showing "watsonx.ai Runtime-lb" as the name, "watsonx.ai Runtime" as the type, "Lite" as the plan, "London" as the location, "Not associated" as the status, and "Default" as the group. An orange arrow points to the checkbox next to "watsonx.ai Runtime-lb". At the bottom right of the dialog box, there are "Cancel" and "Associate" buttons, with a large red box highlighting the "Associate" button.

STEP 14: GO TO OVERVIEW TAB AND CLICK ON BUILD MACHINE LEARNING MODELS AUTOMATICALLY.

The screenshot shows the 'Overview' tab selected in the top navigation bar of the IBM Watsonx.ai Studio interface. On the right side, there is a 'Recommended' section containing a button labeled 'Build machine learning models automatically'. An orange arrow points from the left towards this button, indicating the next step.

STEP 15: GIVE A NAME AND CHOOSE THE RUNTIME SERVICE AND CLICK CREATE.

The screenshot shows the 'Build machine learning models automatically' configuration dialog. In the 'Define details' section, the 'Name' field is filled with 'PredInodus_ML001', indicated by an orange arrow. In the 'Define configuration' section, the 'Runtime service instance' dropdown is set to 'watsonx.ai Runtime-lb', also indicated by an orange arrow. At the bottom right of the dialog, a large blue 'Create' button is highlighted with a red border, ready to be clicked.

STEP 16: IN THIS PAGE CLICK ON BROWSE TAB TO UPLOAD THE DOWNLOADED CSV FILE FOR PREDICTION.

The screenshot shows the 'IBM Watson AI Studio' interface. In the center, there is a section titled 'Add data source' with a placeholder text 'Drop data files here or browse for files to upload'. Below this are two buttons: 'Browse' and 'Select from project'. A red arrow points to the 'Browse' button. The background shows a person icon interacting with a cloud-like interface. At the bottom, there is a taskbar with various icons and system status information.

STEP 17: UPLOAD THE CSV FILE FROM YOUR LOCAL SYSTEM.

The screenshot shows a Windows file explorer window with the title 'Open' and the path 'Downloads'. Inside the 'Downloads' folder, there are several files and folders, including 'predictive_main_maintenance' (highlighted with a red arrow) and 'Telegram Desktop'. Below the file list, there are buttons for 'File name:', 'Upload from mobile', 'Custom files', 'Open', and 'Cancel'. The background shows the same 'Add data source' interface as the previous screenshot, with a red arrow pointing to the 'Browse' button. The bottom of the screen shows a taskbar with various icons and system status information.

STEP 18: WHEN SUCCESSFULLY UPLOADED CLICK NO BUTTON.

Configure AutoAI experiment

PredIndus_ML001

Add data source

Add files such as tabular data (CSV).

Browse Select from project

predictive_maintenance.csv Size: 518.57 KB Columns: 10

Configure details

Create a time series analysis?

Enable this option to predict future activity over a specified date/time range. Data must be structured and sequential. [Learn more](#)

Yes No

STEP 19: NOW CHOOSE WHAT DO YOU WANT TO PREDICT FROM DROP DOWN. MY CASE IT IS FAILURE TYPE

Configure AutoAI experiment

PredIndus_ML001

Add data source

Add files such as tabular data (CSV).

Browse Select from project

predictive_maintenance.csv Size: 518.57 KB Columns: 10

Configure details

Create a time series analysis?

Enable this option to predict future activity over a specified date/time range. Data must be structured and sequential. [Learn more](#)

Yes No

What do you want to predict?

Prediction column ⓘ

Select prediction column

DEC process temperature [K]

INT Rotational speed [rpm]

DEC Torque [Nm]

INT Tool wear [min]

INT Target

STR Failure Type

STEP 20: NOW AFTER CHOOSE CLICK ON RUN EXPERIMENT

The screenshot shows the 'Configure AutoAI experiment' page in IBM Watson AI Studio. On the left, there's a section for 'Add data source' where a CSV file named 'predictive_maintenance.csv' is selected. On the right, under 'Configure details', there are options for predicting future activity over a date/time range (set to 'No'), choosing the prediction column ('Failure Type'), and setting the prediction type to 'Multiclass Classification' (optimized for accuracy and run time). At the bottom right, a blue button labeled 'Run experiment' is highlighted with an orange arrow.

STEP 21: NOW THE MODEL START OBSERVING AND BUILDING.

The screenshot shows the 'Experiment summary' tab in IBM Watson AI Studio. It features a 'Relationship map' visualization on the left, which is highlighted with a large orange arrow pointing towards it. On the right, there's a 'Progress map' showing the status of the experiment, which is currently 'Pending'. Below the main summary area, there's a 'Pipeline leaderboard' table and a taskbar at the bottom.

Screenshot of IBM Watson AI Studio showing the 'Experiment summary' tab. The main area displays a 'Relationship map' titled 'predictive_main...' with a legend indicating '90% TRAINING DATA' and '3 folds' on the left, and '10% HOLDOUT DATA' on the right. To the right is a 'Progress map' showing a circular progress bar with several segments. Below the maps is a 'Pipeline leaderboard' table.

Rank	Name	Algorithm	Accuracy (Optimized)	Enhancements	Build time
8	Air: Moderate Tomorrow				18:49 31-07-2025

Screenshot of IBM Watson AI Studio showing the 'Experiment summary' tab. The main area displays a 'Relationship map' titled 'SELECTING ALGORITHMS' with a legend indicating '10% of training data predictive_main...' at the bottom. To the right is a 'Progress map' showing a circular progress bar with several segments. Below the maps is a 'Pipeline leaderboard' table.

Rank	Name	Algorithm	Accuracy (Optimized)	Enhancements	Build time
9	Rain to stop 7:02 pm				18:50 31-07-2025

STEP 22: AFTER COMPLETING IT'S LOOK LIKE THIS. CLICK SWAP VIEW TO SEE THE PROGRESS MAP

Screenshot of IBM Watson AI Studio showing the 'Experiment summary' tab. The main area displays a 'Relationship map' titled 'predictive_main...' with concentric rings labeled 'FEATURE TRANSFORMERS', 'PIPELINES', and 'TOP ALGORITHMS'. To the right is a 'Progress map' showing a circular progress bar with segments. An orange arrow points to the 'Swap view' button in the 'Progress map' section. Below the maps is a 'Pipeline leaderboard' table.

Rank	Name	Algorithm	Specialization	Accuracy (Optimized)	Enhancements	Build time
9	29°C Light rain					18:51 31-07-2025

Service Details - IBM Cloud IBM watsonx.ai Studio

https://eu-gb.dataplatform.cloud.ibm.com/ml/auto-ml/2cc4f46f-1b79-4587-bc6d-d846e93a288e/train?projectId=bddd3285-dad9-4846-ae9d-45bb0ee1a487&context=cpdaas

IBM watsonx.ai Studio Search in your workspaces Upgrade ANINDA SAU's Account London AS

Projects / PredInodus_ML / PredIndus_ML001

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

Progress map ①
Prediction column: Failure Type

Relationship map
Swap view ↗

Experiment completed 8 PIPELINES GENERATED
8 pipelines generated from algorithms. See pipeline leaderboard below for more detail.
Time elapsed: 2 minutes

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

Pipeline leaderboard ▾

Rank	Name	Algorithm	Specialization	Accuracy (Optimized)	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	00:00:26
4	Pipeline 2	Snap Random Forest Classifier		0.994	HPO-1	00:00:08

29°C Light rain Search ENG IN 18:52 31-07-2025

STEP 23 : SCROLL DOWN YOU WILL SEE THE ALL PIPELINES AND ALGORITHMS

Service Details - IBM Cloud IBM watsonx.ai Studio

https://eu-gb.dataplatform.cloud.ibm.com/ml/auto-ml/2cc4f46f-1b79-4587-bc6d-d846e93a288e/train?projectId=bddd3285-dad9-4846-ae9d-45bb0ee1a487&context=cpdaas

IBM watsonx.ai Studio Search in your workspaces Upgrade ANINDA SAU's Account London AS

Projects / PredInodus_ML / PredIndus_ML001

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

8 pipelines generated from algorithms. See pipeline leaderboard below for more detail.
Time elapsed: 2 minutes

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

Pipeline leaderboard ▾

Rank	Name	Algorithm	Specialization	Accuracy (Optimized)	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	00:00:26
4	Pipeline 2	Snap Random Forest Classifier		0.994	HPO-1	00:00:08

29°C Light rain Search ENG IN 18:52 31-07-2025

STEP 24 : THE TOP PERFORMANCE IS ON TOP GO RIGHT SIDE OF THAT AND CLICK SAVE AS

Pipeline leaderboard

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	Save as
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	00:00:26	
4	Pipeline 2	Snap Random Forest Classifier		0.994	HPO-1	00:00:08	

STEP 25: CLICK ON MODEL AND CREATE.

Save as

Select asset type

Model

Create a watsonx.ai Runtime model asset that you can test with new data, deploy to generate predictions, and trace lineage activity.

Notebook

Create a notebook if you want to view the code that created this model pipeline or interact with the model programmatically.

Define details

Name: P4 - Snap Random Forest Classifier: PredIndus_ML001

Description (optional): Model description

Tags: Add tags to make assets easier to find.

Add a tag:

[Cancel](#) [Create](#)

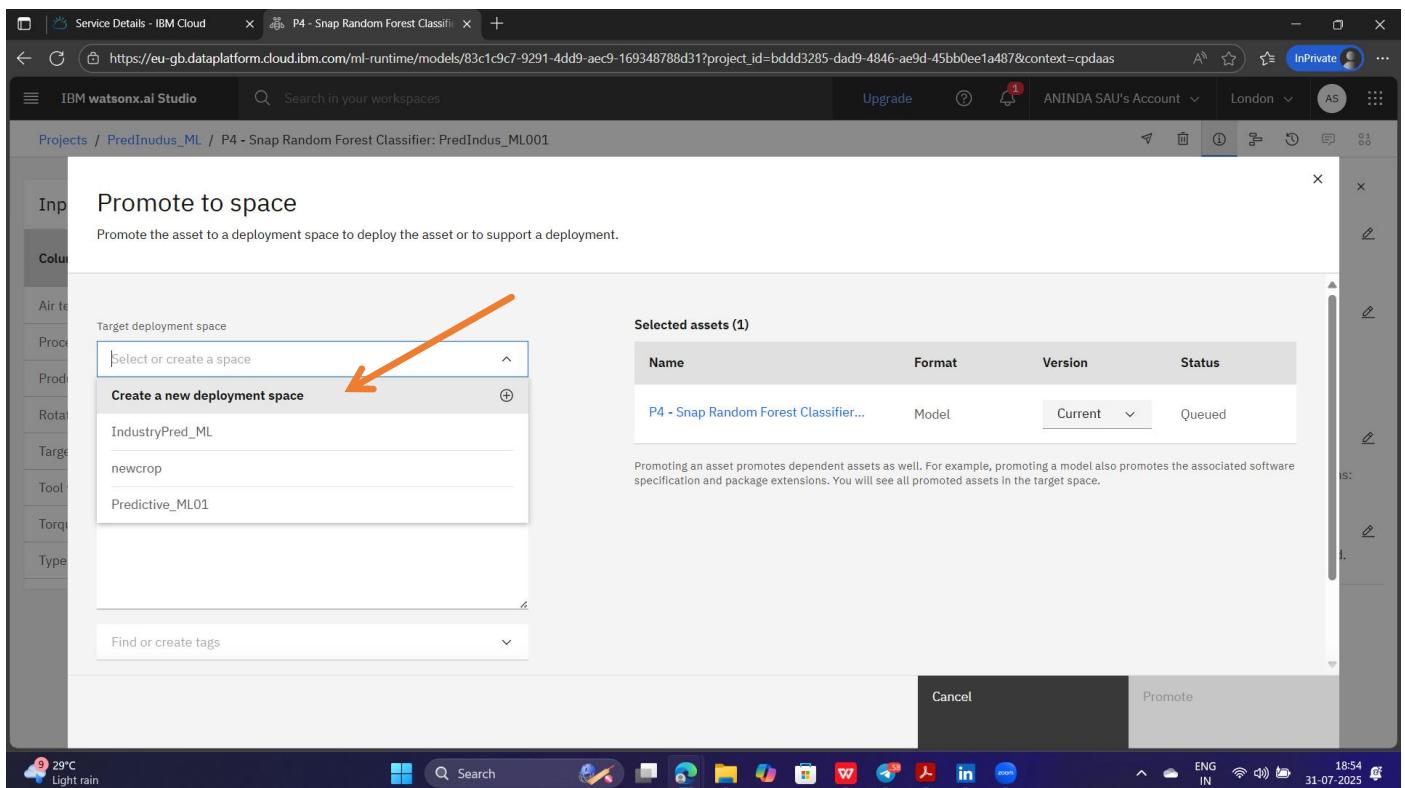
STEP 26: IT IS CREATED NOW ON THE TOP RIGHT SIDE CLICK THE VIEW IN PROJECT

The screenshot shows the IBM Watson AI Studio interface. A green success toast notification is displayed in the top right corner, stating "Saved Model successfully. P4 - Snap Random Forest Classifier: PredIndus_ML001 was successfully saved to PredIndus_ML." Below the notification is a red rectangular box highlighting the "View in project" button. At the bottom of the screen, there is a Windows taskbar showing various pinned icons and system status.

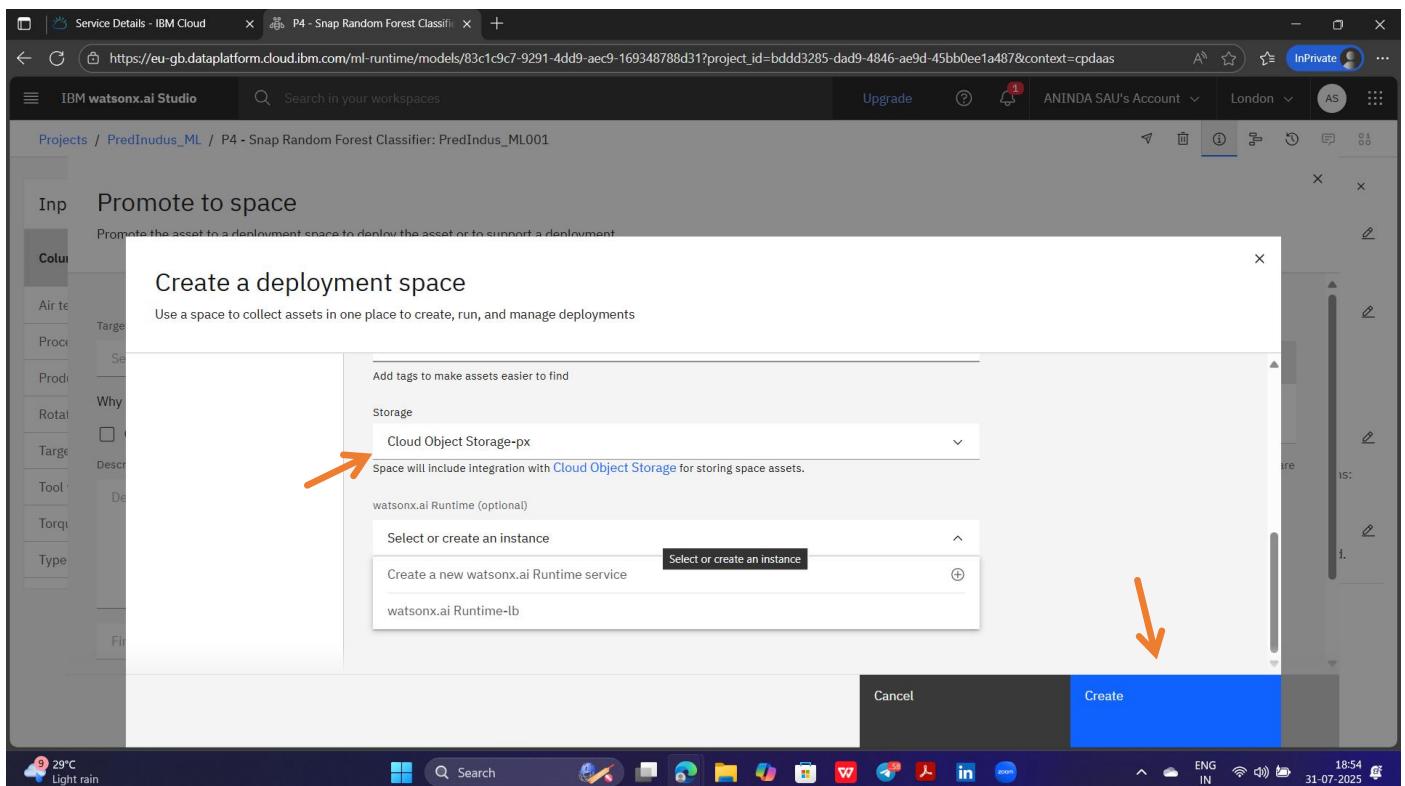
STEP 27 : CLICK THE RIGHT SIDE CORNER PROMPT TO SPACE ARROW ICON.

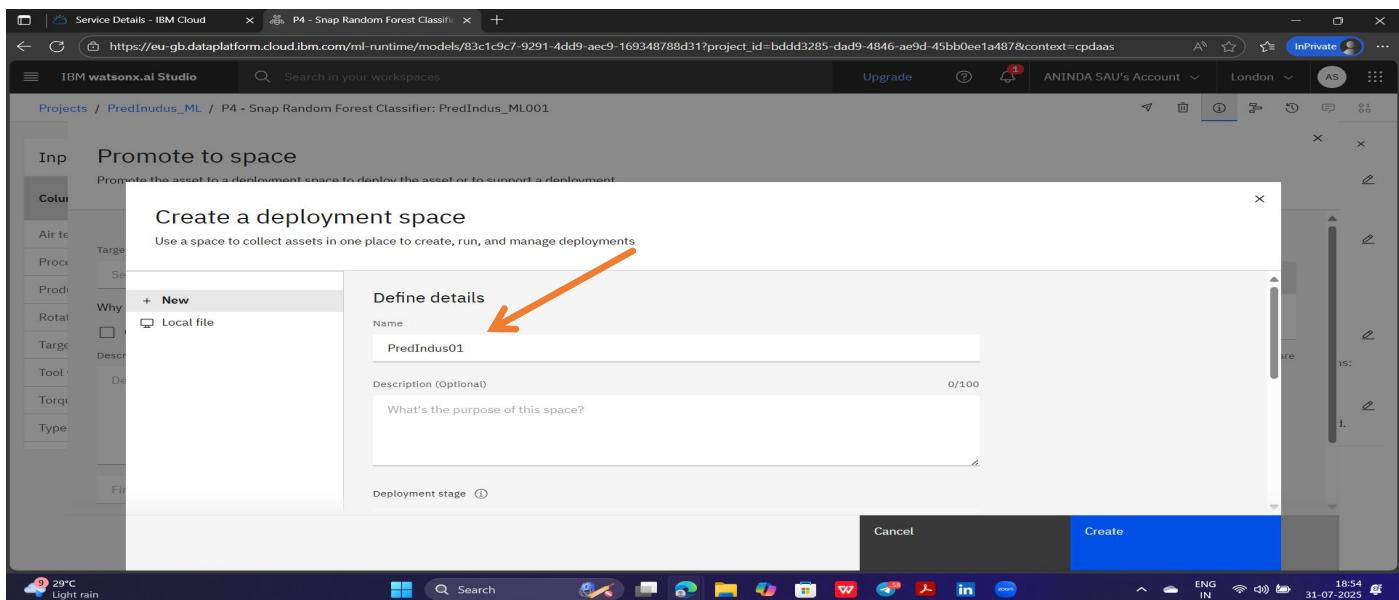
The screenshot shows the IBM Watson AI Studio interface on the asset details page for "P4 - Snap Random Forest Classifier: PredIndus_ML001". On the right side, there is a sidebar with several sections: "Name", "Description", "Asset Details", "Tags", and "Last modified". A red arrow points to the "Promote to space" button at the top of this sidebar. The main content area shows the "Input (1)" table, which lists various columns and their types. The Windows taskbar is visible at the bottom.

STEP 28: CLICK TARGET DEPLOYMENT SPACE AND CLICK - CREATE A NEW DEPLOYMENT SPACE.

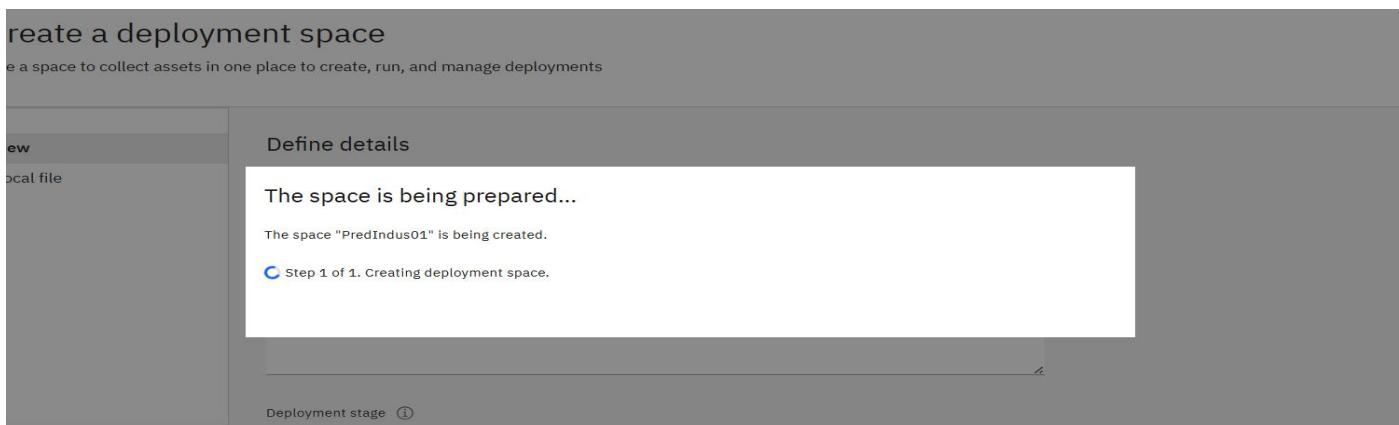


STEP 29: GIVE THE NAME AND STORAGE AND CLICK CREATE.

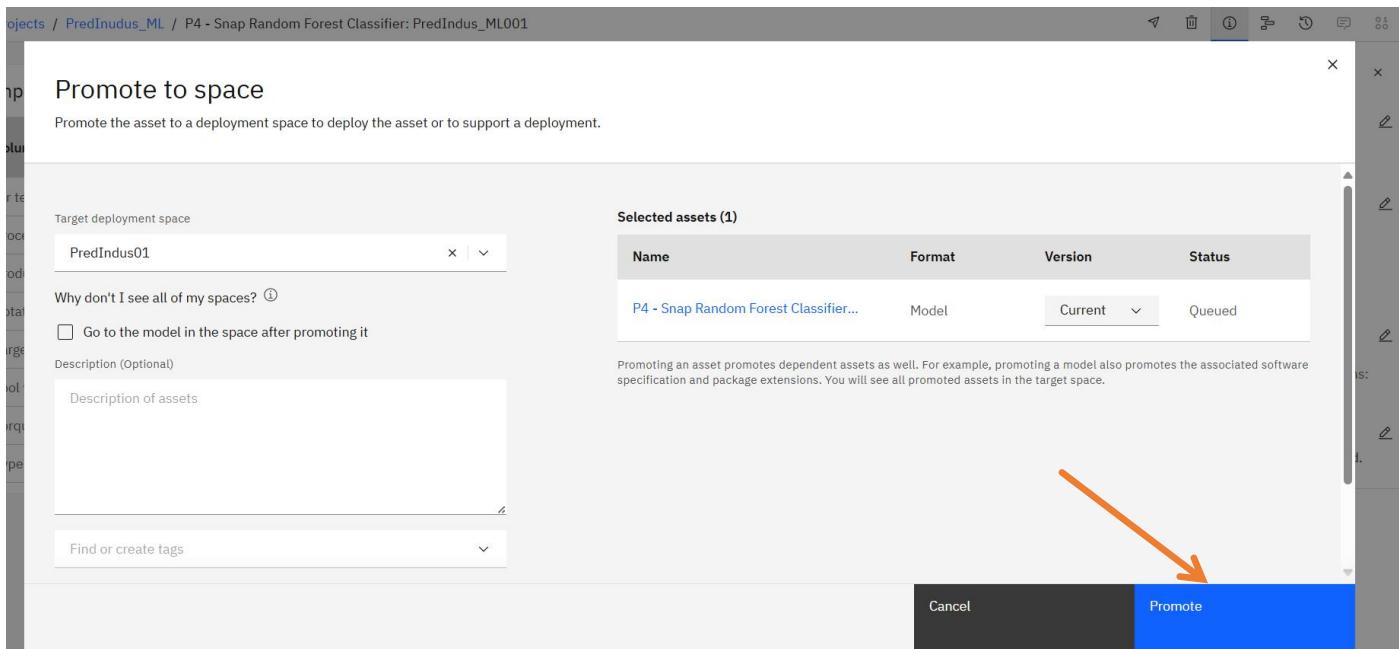




STEP 30: SPACE IS PREPARING .



STEP 31 : CLICK ON PROMOTE



STEP 32 : SPACE IS SUCCESSFULLY PROMOTED, CLICK ON NAME OF SPACE.

The screenshot shows the IBM Watsonx.ai Studio interface. A green success message box is displayed in the top right corner, stating: "Successfully promoted P4 - Snap Random Forest Classifier: PredIndus_ML001 to the deployment space. Go to the deployment space to prepare the assets for deployment. Timestamp 6:55:57 PM". Below the message, a table titled "Selected assets (1)" lists one asset: "P4 - Snap Random Forest Classifier: PredIndus_ML001" (Model, Current, Promoted). An orange arrow points to the "Promotion completed." status message.

STEP 33: CLICK NEW DEPLOYMENT

The screenshot shows the "Deployment spaces" page for "PredIndus01". The "Deployments" tab is selected. A blue button labeled "New deployment" is highlighted with an orange arrow. To its left, there is a message: "This asset doesn't have any deployments yet. Use the New Deployment button to create a deployment for this asset." The right side of the screen displays the "About this asset" details, including the name, type, and software specifications.

STEP 34: CLICK ONLINE AND GIVE NAME AND CLICK CREATE.

The screenshot shows the "Create a deployment" dialog. Under "Deployment type", the "Online" option is selected, indicated by an orange arrow. In the "Name" field, "PredIndus_ML01" is entered, also indicated by an orange arrow. The bottom right corner of the dialog has a blue "Create" button, which is also highlighted with an orange arrow.

STEP 35: CLICK ON THE DEPLOYED MODEL.

Deployment spaces / PredIndus01 / P4 - Snap Random Forest Classifier: PredIndus_ML001

Deployments Model details

Name	Type	Status	Tags	Last modified
PredIndus_ML01	Online	Deployed		20 seconds ago ANINDA SAU (You)

About this asset

- Name:** P4 - Snap Random Forest Classifier: PredIndus_ML001
- Description:** No description provided.
- Asset Details:**
 - Type: wml-hybrid_0.1
 - Model ID: 6954b743-e272-48...
 - Software specification: hybrid_0.1
 - Hybrid pipeline software specifications: autoai-kb_r124.1-py3.11

STEP 36: GO TEST TAB ADD THE RANDOM DATA INTO THE CELL ACCORDING TO COLUMN NAME FROM DOWNLOADED CSV TO PREDICT. AND CLICK PREDICT

Service Details - IBM Cloud

IBM Watsonx.ai Studio

PredIndus_ML01 — PredIndus01 /

PredIndus_ML01 Deployed Online

API reference Test

Enter input data

Text JSON

Enter data manually or use a CSV file to populate the spreadsheet. Max file size is 50 MB.

Download CSV template ↴ Browse local files ↵ Search in space ↵ Clear all ×

UDI (double)	Product ID (other)	Type (other)	Air temperature [K] (double)	Process temperature [K] (double)	Rotational speed [rpm] (double)	Torque [Nm] (double)	Tool wear (double)
1	L47340	L	298.4	308.2	1282	60.7	216
2	L47348	L	298.4	308.3	1433	62.3	20
3	M15030	M	298.4	308.2	1610	35	24
4							
5							

3 rows, 9 columns

Predict

9 29°C Light rain

Search

Upgrade

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London

AS

ENG IN

31-07-2025

OUTPUT: FINAL PREDICTION SHOWN MATCH WITH THE CSV FILE .

Screenshot of the IBM Watson AI Studio interface showing prediction results for a Multiclass classification model.

Prediction results

Prediction type: Multiclass classification

Prediction percentage:

3 records

Legend: Overstrain Failure (purple), Power Failure (blue), No Failure (dark green)

Display format for prediction results: Table view (selected) / JSON view

Show input data:

	Prediction	Confidence
1	Overstrain Failure	96%
2	Power Failure	100%
3	No Failure	100%
4		
5		
6		
7		
8		
9		
10		
11		

Download JSON file

Bottom navigation bar: Weather (29°C Light rain), Search, File, Home, Recent, etc. Date: 31-07-2025, Time: 19:02.

Screenshot of the IBM Watson AI Studio interface showing prediction results for a Multiclass classification model.

Prediction results

Prediction type: Multiclass classification

Prediction percentage:

3 records

Legend: Overstrain Failure (purple), Power Failure (blue), No Failure (dark green)

Display format for prediction results: Table view (selected) / JSON view

Show input data:

	Prediction	Confidence	UDI	Product ID	Type
1	Overstrain Failure	96%	161	L47340	L
2	Power Failure	100%	169	L47348	L
3	No Failure	100%	171	M15030	M
4					
5					
6					
7					
8					
9					
10					

Download JSON file

Bottom navigation bar: Weather (29°C Light rain), Search, File, Home, Recent, etc. Date: 31-07-2025, Time: 19:02.