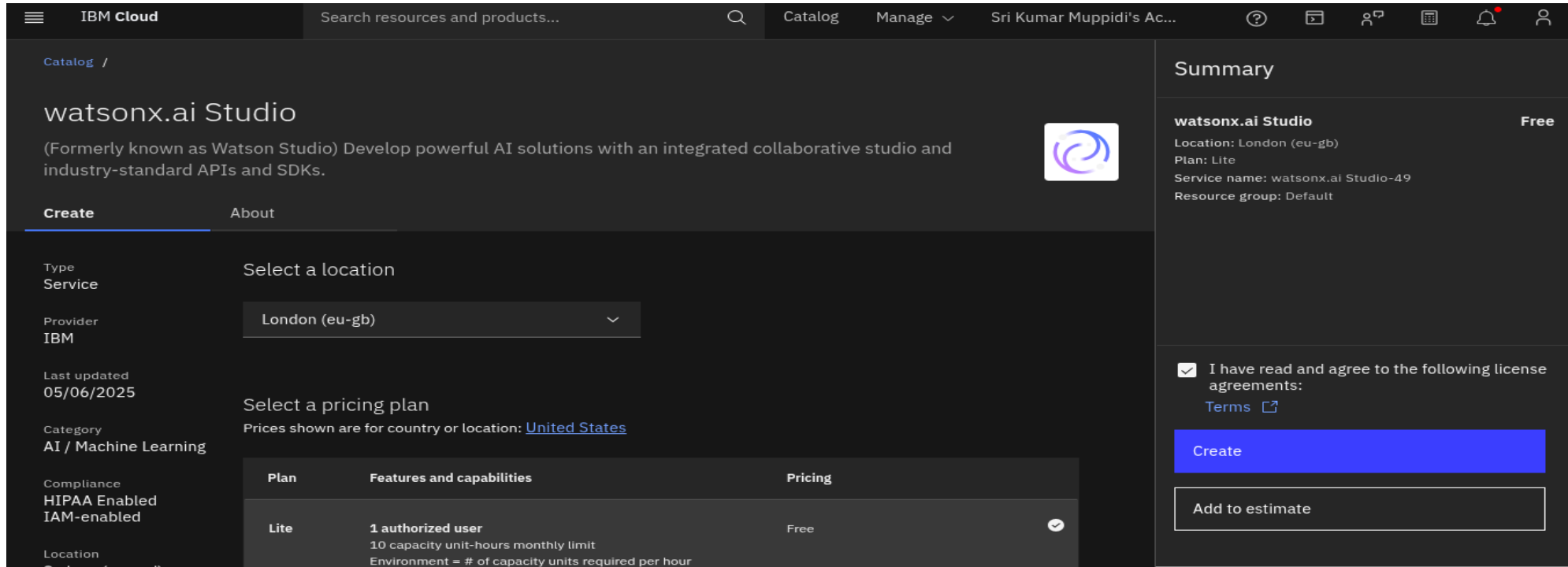


STEPS TO CREATE PREDICTIVE MAINTAINANCE PROJECT USING ML

First step:- Search watsonx.ai studio



The screenshot displays the IBM Cloud Catalog interface for the watsonx.ai Studio service. The header includes the IBM Cloud logo, a search bar, and navigation links like 'Catalog', 'Manage', and the user's account name 'Sri Kumar Muppidi's Ac...'. The main content area is divided into two sections: 'Create' and 'About'. The 'Create' section is active, showing a 'Select a location' dropdown menu with 'London (eu-gb)' selected. Below this, there's a 'Select a pricing plan' section with a table of plans. The table has three columns: 'Plan', 'Features and capabilities', and 'Pricing'. The 'Lite' plan is selected, showing '1 authorized user', '10 capacity unit-hours monthly limit', and 'Free' pricing. On the right side, there's a 'Summary' panel for 'watsonx.ai Studio' with details like 'Location: London (eu-gb)', 'Plan: Lite', 'Service name: watsonx.ai Studio-49', and 'Resource group: Default'. A 'Create' button is prominently displayed in blue, and an 'Add to estimate' button is below it. A license agreement checkbox is also visible.

Summary

watsonx.ai Studio Free

Location: London (eu-gb)
Plan: Lite
Service name: watsonx.ai Studio-49
Resource group: Default

☒ I have read and agree to the following license agreements:
[Terms](#)

Create

Add to estimate

Plan	Features and capabilities	Pricing
Lite	1 authorized user 10 capacity unit-hours monthly limit Environment = # of capacity units required per hour	Free

- Set location london and create studio

Step 2 :-

The screenshot shows the IBM watsonx.ai Studio interface. A modal dialog is open in the center, titled "Build and manage ML models with watsonx.ai Studio". The dialog contains the following text:

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 with watsonx.ai Studio by provisioning a watsonx.ai Studio and

At the bottom of the dialog are two buttons: "Cancel" and "Next". The "Next" button is highlighted in blue. A white arrow points to the "Next" button. In the top right corner of the dialog, there is a close button (X) and a maximize button. A white arrow points to the close button.

The background interface shows a sidebar with "Take a tutorial" and "Quick start" sections. The "Quick start" section lists three options: "Build customer profiles with IBM Match 360 with Watson", "Catalog and govern data with watsonx.data intelligence", and "Build and manage ML models with watsonx.ai Studio". The main area shows a "Get started" section with two tasks: "Provision watsonx.ai Studio" and "Provision watsonx.ai Runtime". The "Provision watsonx.ai Runtime" task is marked as completed with a checkmark. The bottom right corner shows a "Deployments" table with three entries: "FinalDep", "finaldeployment", and "finaldep".

Deployments ①		+
FinalDep	Aug 01, 2025 10:26 PM	
finaldeployment	Jul 26, 2025 7:18 PM	
finaldep	Jul 26, 2025 3:55 PM	

- Click on next here

Step 3:-

The screenshot shows the 'Create' page for 'watsonx.ai Runtime' in the IBM watsonx.ai Studio interface. The page is divided into three main sections: 'Select a region', 'Pricing plan', and a 'Summary' sidebar on the right.

Select a region: A dropdown menu is shown with 'London' selected.

Pricing plan: A table displays the available plans. The 'Lite' plan is selected, indicated by a checkmark in the pricing column.

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	Free

Summary sidebar: Contains the following information:

- watsonx.ai Runtime**
- Region: London
- Plan: Lite
- Service name: watsonx.ai Runtime-sb
- Resource group: Default

At the bottom of the sidebar, there are three buttons: 'Create' (highlighted in blue), 'View terms', and 'Cancel'.

- Create watsonx.ai runtime

Step 4:-

The screenshot shows the IBM watsonx.ai Studio interface. A modal dialog titled "Build and manage ML models with watsonx.ai Studio" is open. The dialog contains the following text:

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** (highlighted with a white border and a checkmark icon)
Create a project and then add your own data to get started.

At the bottom of the dialog are two buttons: "Cancel" and "Next" (highlighted in blue).

In the background, the main interface is visible. It includes a top navigation bar with "IBM watsonx.ai Studio", a search bar, and user information. The left sidebar has a "Welcome, Sri kumar!" message and a "Take a tutorial" section. The right sidebar shows a "Deployments" table with the following data:

Deployments	
FinalDep	Aug 01, 2025 10:26 PM
finaldeployment	Jul 26, 2025 7:18 PM
finaldep	Jul 26, 2025 7:18 PM

- Create a new project and click on next

Step 5:-

The screenshot displays the IBM watsonx.ai Studio interface. The top navigation bar includes the 'IBM watsonx.ai Studio' logo, a search bar, an 'Upgrade' button, a help icon, a notification bell with a red '5' badge, the user's account 'Sri Kumar Muppidi's Account', the location 'London', and a profile icon 'SM'. Below the navigation bar, the 'Projects / finalskk' breadcrumb is visible. The main content area is divided into tabs: 'Overview' (selected), 'Assets', 'Jobs', and 'Manage'. The 'Overview' tab shows a 'Start working' section with four recommended actions: 'Add users as collaborators', 'Add data to work with', 'Work with data and models in Python or R notebooks', and 'Build machine learning models automatically'. Each action has a right-pointing arrow. Below this section, there are three panels: 'Assets' (with a 'By all' dropdown), 'Resource usage' (showing 'For this month in this project' and a 'CUH' logo), and 'Your documentation' (with a 'New!' badge and a link to 'Open Documentation editor').

- Click on manage and go to service & integrations and Associate service as watsonx.ai runtime

Step 6:-

IBM watsonx.ai Studio

Search in your workspaces

Upgrade

Sri Kumar Muppidi's Account

London


SM

Projects / finalskk / FINALMLmodell

Configure AutoAI experiment

FINALMLmodell

Add data source



Drop data files here or browse for files to upload

Add files such as tabular data (CSV).

Browse

Select from project

- Select browse and click on file to be selected

Step 7:-

The screenshot shows the IBM Watsonx AI Studio interface. The top navigation bar includes the IBM Watsonx AI Studio logo, a search bar, an 'Upgrade' button, a help icon, a notification bell with a red '5', and a user profile for 'Sri Kumar Muppidi's Account'. The breadcrumb trail indicates the current location: 'Projects / finalskk / FINALMLmodell'. The main heading is 'Configure AutoAI experiment FINALMLmodell', with an 'Autosaved: 21:26:16' timestamp.

The interface is divided into two main sections. The left section, titled 'Add files such as tabular data (CSV)', contains two buttons: 'Browse' and 'Select from project'. Below these buttons, a file named 'predictive_maintenance.csv' is listed with a size of 518.57 KB and 10 columns.

The right section, titled 'What do you want to predict?', contains a toggle switch for 'Enable this option to predict future activity over a specified date/time range. Data must be structured and sequential. [Learn more](#)'. The toggle is currently set to 'No'. Below this, a dropdown menu for 'Select prediction column' is open, showing a list of columns with their data types:

Column	Data Type
Process temperature [K]	DEC
Rotational speed [rpm]	INT
Torque [Nm]	DEC
Tool wear [min]	INT
Target	INT
Failure Type	STR

- Select failure type and proceed

Step 8:-

Projects / nnalskk / FINALMLmodell

Experiment summary Pipeline comparison

predictive_mainte...

Pipeline leaderboard

	Rank ↑	Name	Algorithm	Specialization	Accuracy (Optimized) Cross Validation	Enhancement
★	1	Pipeline 5	Batched Tree Ensemble Classifier (Snap Random Forest Classifier)	INCR	0.995	HPO-1
	2	Pipeline 4	Snap Random Forest Classifier		0.995	HPO-1
	3	Pipeline 3	Snap Random Forest Classifier		0.995	HPO-1
	4	Pipeline 9	Snap Decision Tree Classifier		0.994	HPO-1

Relationship map

Prediction column: Failure Type

90% TRAINING DATA 3 folds

10% HOLDOUT DATA

predictive_main...

Splitting data

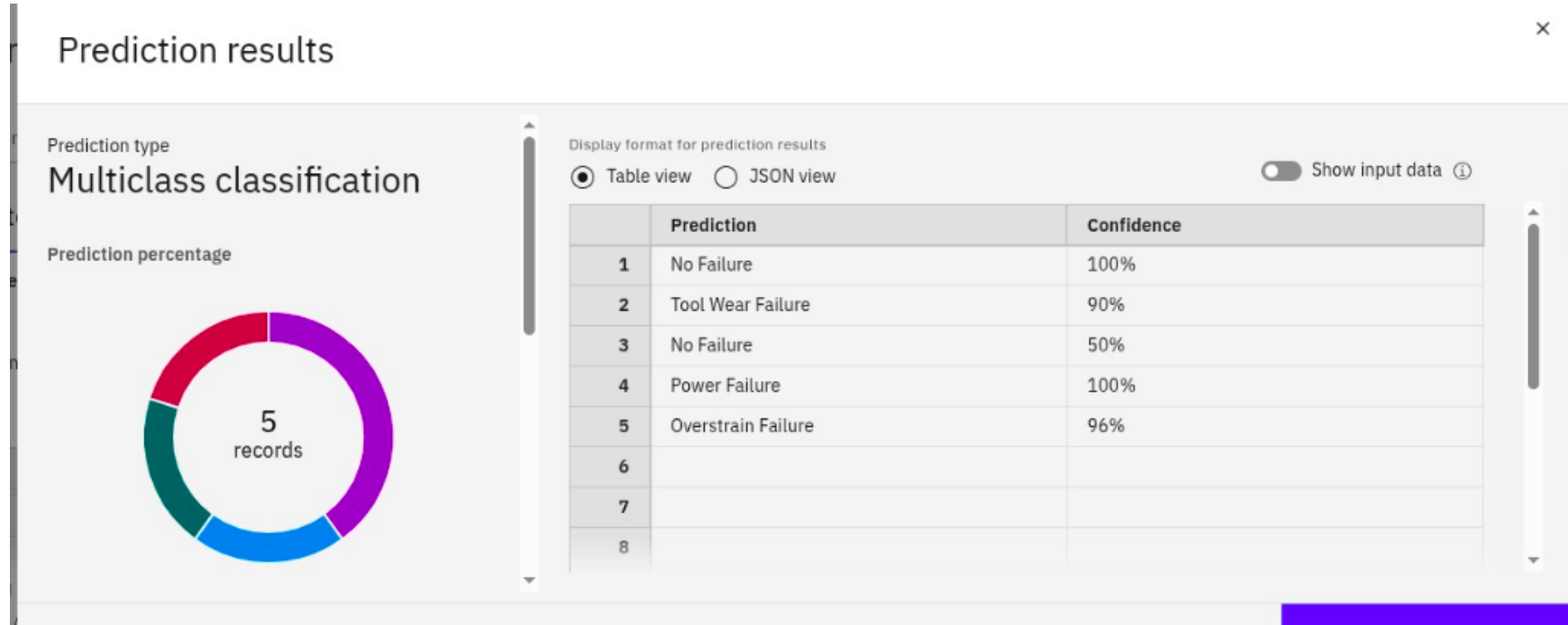
PREDICTIVE_MAINT...

Splitting holdout and tr...

Time elapsed: 7 minutes

- Save the random forest classifier and deploy the project with a name

Step 9:-



- Final prediction result of project