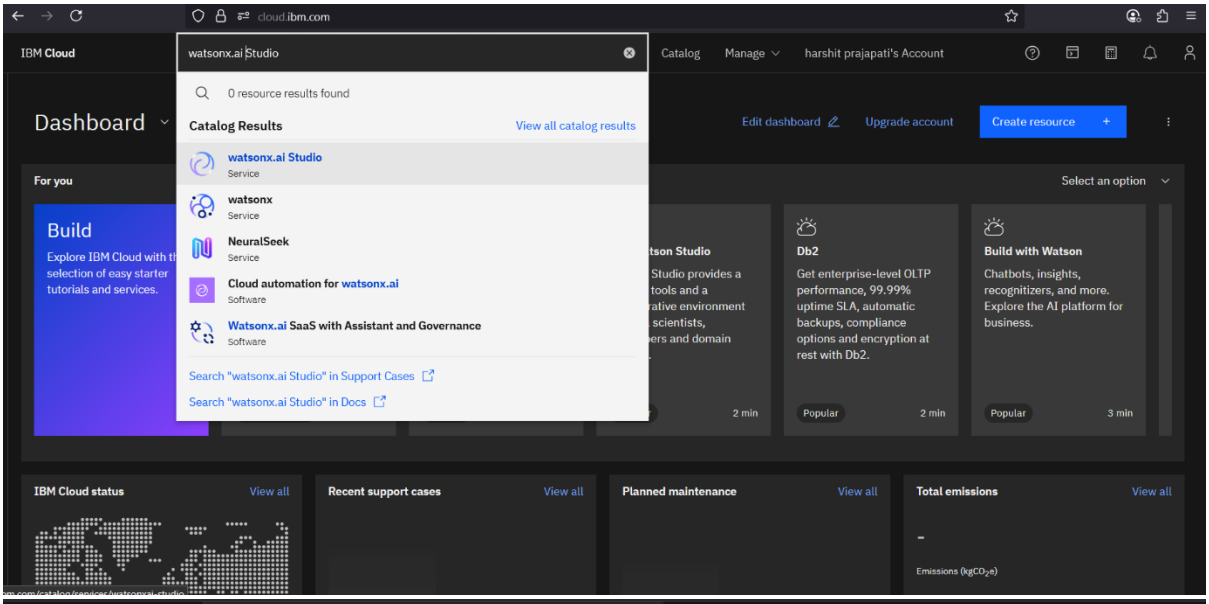
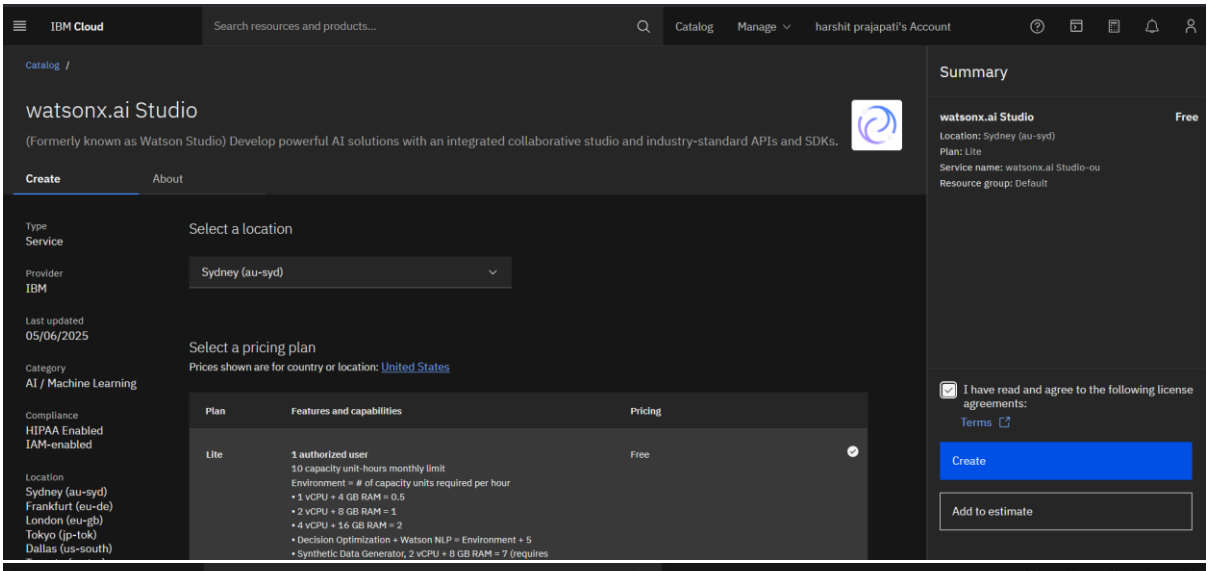
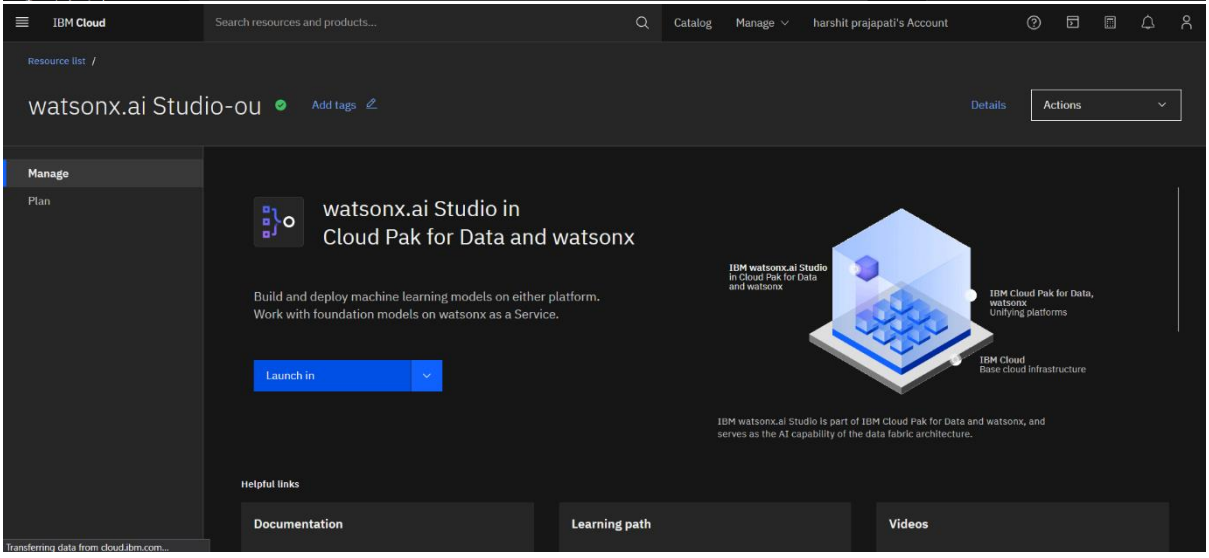
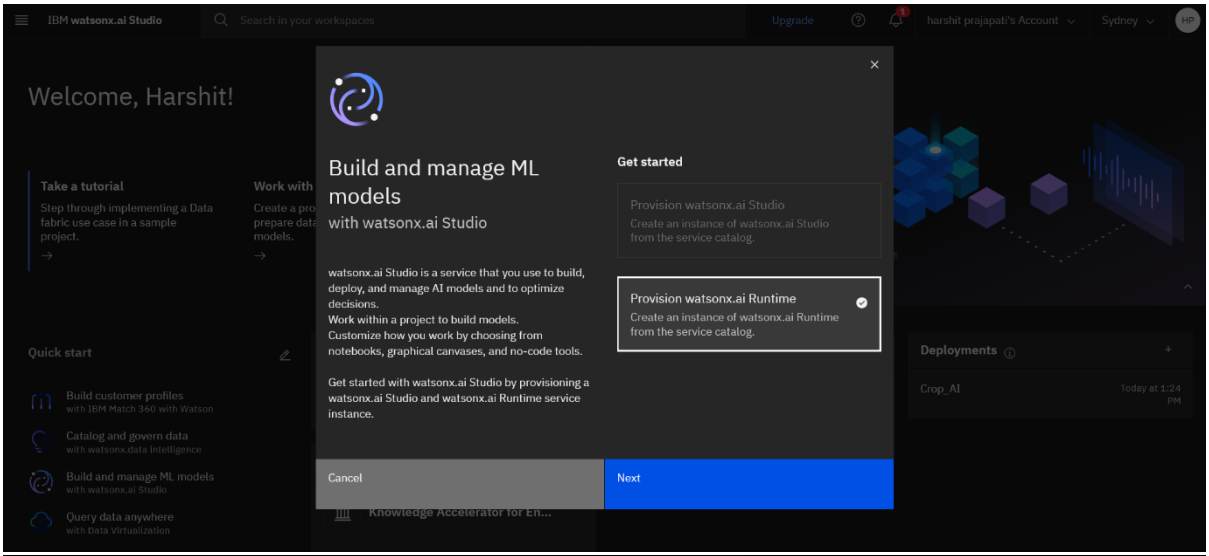
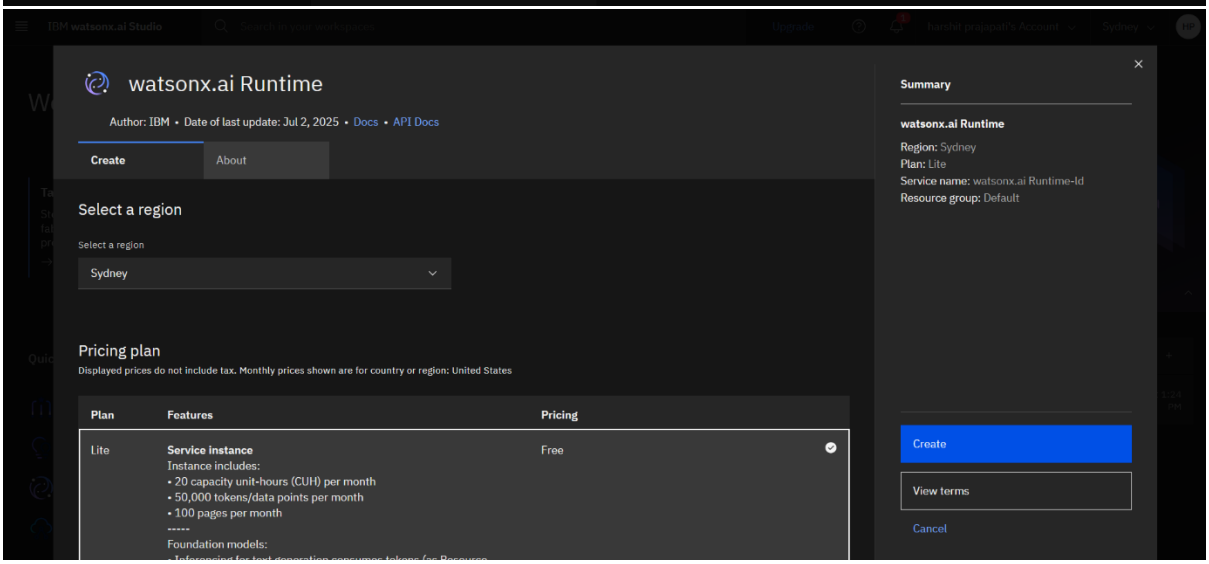
# Crop Recommendation System Project

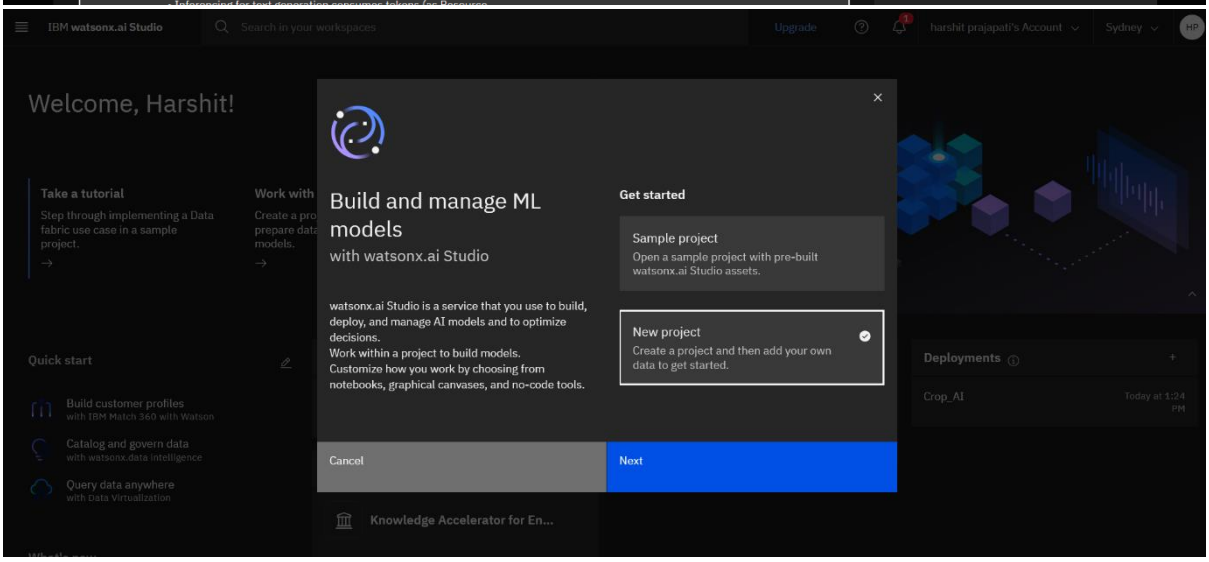



IBM watsonx.ai Studio
Search in your workspaces
Upgrade
harshit prajapati's Account
Sydney
Welcome, Harshit!
Take a tutorial
Step through implementing a Data fabric use case in a sample project.
Work with
Quick start
Build customer profiles
with IBM Match 360 with Watson
Catalog and govern data
with watsonx.data intelligence
Build and manage ML models
with watsonx.ai Studio
Query data anywhere
with Data Virtualization
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 watsonx.ai Runtime service instance.
Get started
Provision watsonx.ai Studio
Create an instance of watsonx.ai Studio from the service catalog.
Provision watsonx.ai Runtime
Create an instance of watsonx.ai Runtime from the service catalog.
Cancel
Next
Deployments
Crop_AI
Today at 1:24 PM
Knowledge Accelerator for En...


watsonx.ai Runtime
Author: IBM • Date of last update: Jul 2, 2025 • Docs • API Docs
Create
About
Select a region
Select a region
Sydney
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:
• 20 capacity unit-hours (CUH) per month
• 50,000 tokens/data points per month
• 100 pages per month
---
Foundation models:
Free
Summary
watsonx.ai Runtime
Region: Sydney
Plan: Lite
Service name: watsonx.ai Runtime-Id
Resource group: Default
Create
View terms
Cancel


IBM watsonx.ai Studio
Search in your workspaces
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Welcome, Harshit!
Take a tutorial
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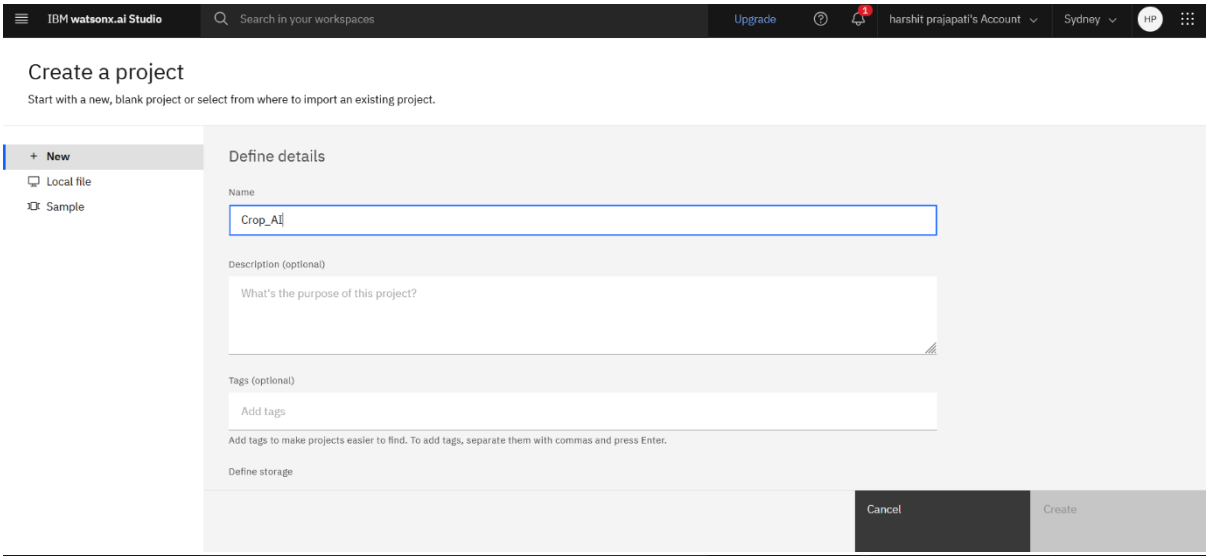
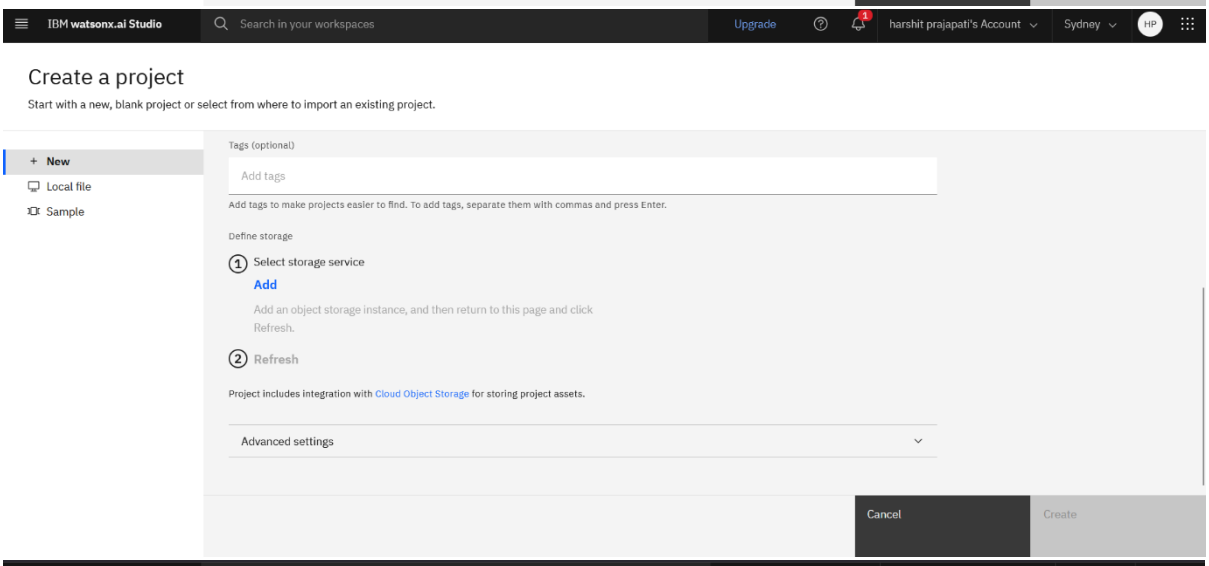
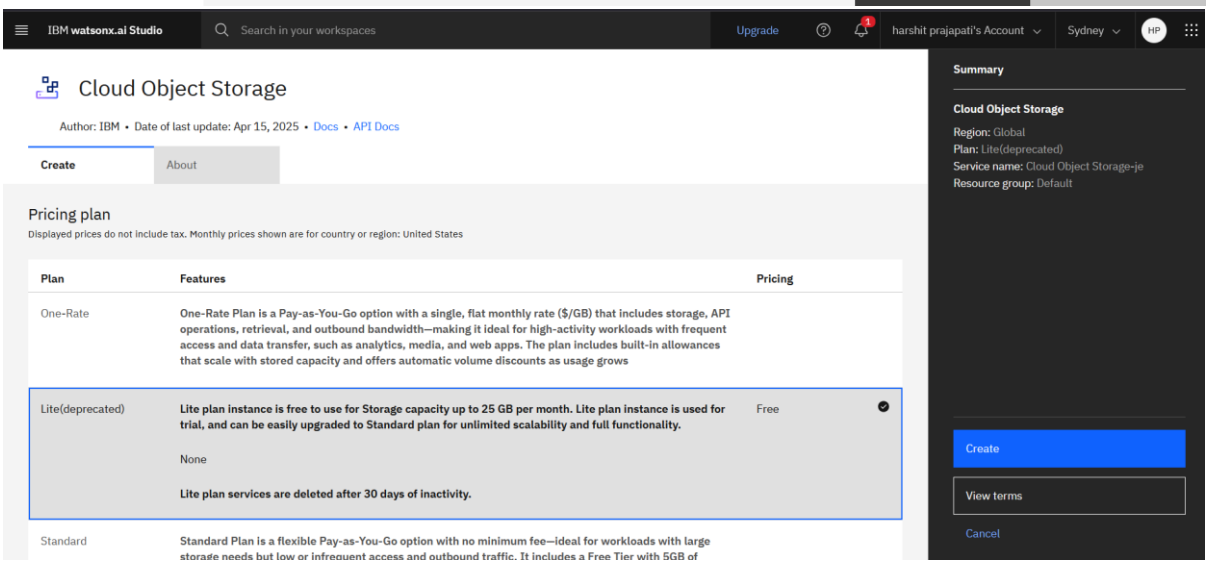
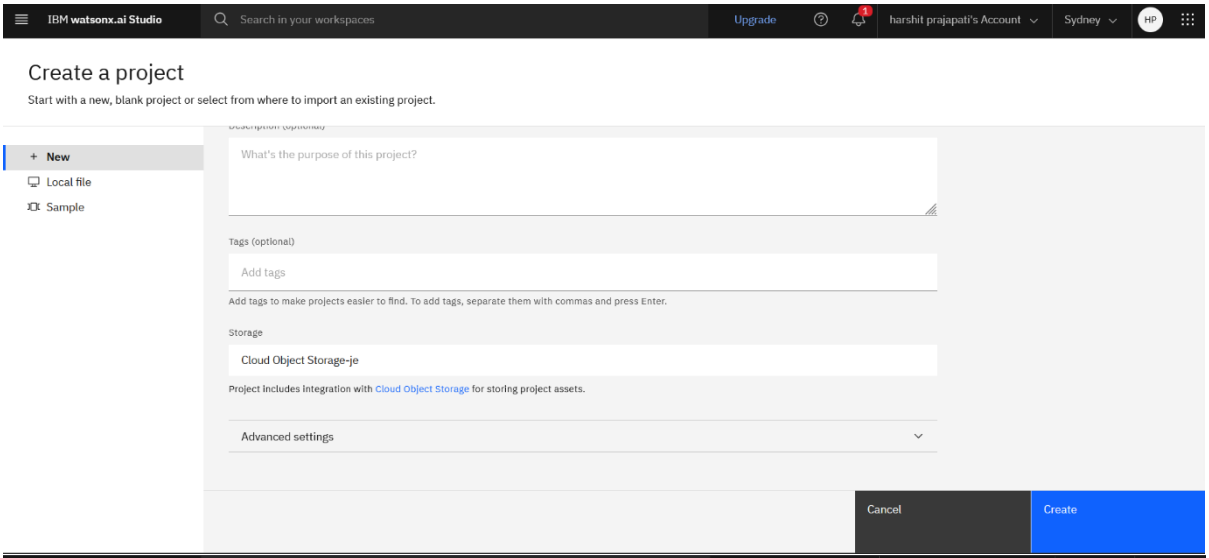
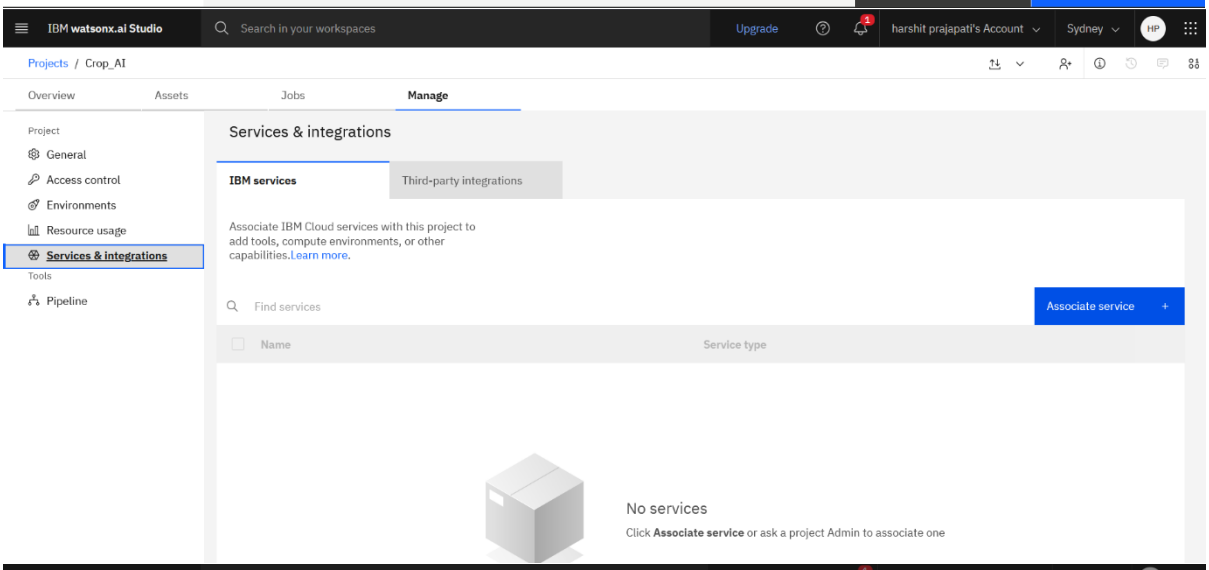
Quick start
Build customer profiles
with IBM Match 360 with Watson
Catalog and govern data
with watsonx.data intelligence
Query data anywhere
with Data Virtualization
Build and manage ML models
with watsonx.ai Studio
watsonx.ai Studio is a service that you use to build, deploy, and manage AI models and 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.
Cancel
Next
Deployments
Crop_AI
Today at 1:24 PM
Knowledge Accelerator for En...


IBM watsonx.ai Studio
Search in your workspaces
Upgrade
harshit prajapati's Account
Sydney
HP
Create a project
Start with a new, blank project or select from where to import an existing project.
+ New
Local file
Sample
Define details
Name
Crop_AI
Description (optional)
What's the purpose of this project?
Tags (optional)
Add tags
Add tags to make projects easier to find. To add tags, separate them with commas and press Enter.
Define storage
Cancel
Create


IBM watsonx.ai Studio
Search in your workspaces
Upgrade
harshit prajapati's Account
Sydney
HP
Create a project
Start with a new, blank project or select from where to import an existing project.
+ New
Local file
Sample
Tags (optional)
Add tags
Add tags to make projects easier to find. To add tags, separate them with commas and press Enter.
Define storage
1 Select storage service
Add
Add an object storage instance, and then return to this page and click Refresh.
2 Refresh
Project includes integration with Cloud Object Storage for storing project assets.
Advanced settings
Cancel
Create


IBM watsonx.ai Studio
Search in your workspaces
Upgrade
harshit prajapati's Account
Sydney
HP
Cloud Object Storage
Author: IBM • Date of last update: Apr 15, 2025 • Docs • API Docs
Create
About
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
Summary
Cloud Object Storage
Region: Global
Plan: Lite(deprecated)
Service name: Cloud Object Storage-je
Resource group: Default
Create
View terms
Cancel


IBM watsonx.ai Studio
Search in your workspaces
Upgrade
harshit prajapati's Account
Sydney
HP
Create a project
Start with a new, blank project or select from where to import an existing project.
+ New
Local file
Sample
What's the purpose of this project?
Tags (optional)
Add tags
Add tags to make projects easier to find. To add tags, separate them with commas and press Enter.
Storage
Cloud Object Storage-je
Project includes integration with Cloud Object Storage for storing project assets.
Advanced settings
Cancel
Create


IBM watsonx.ai Studio
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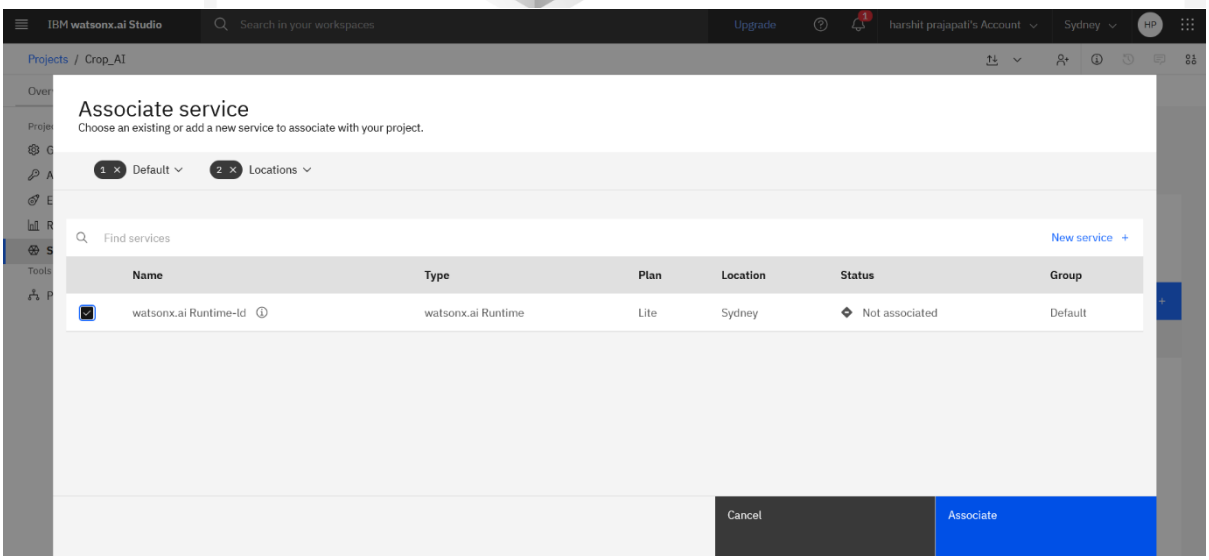
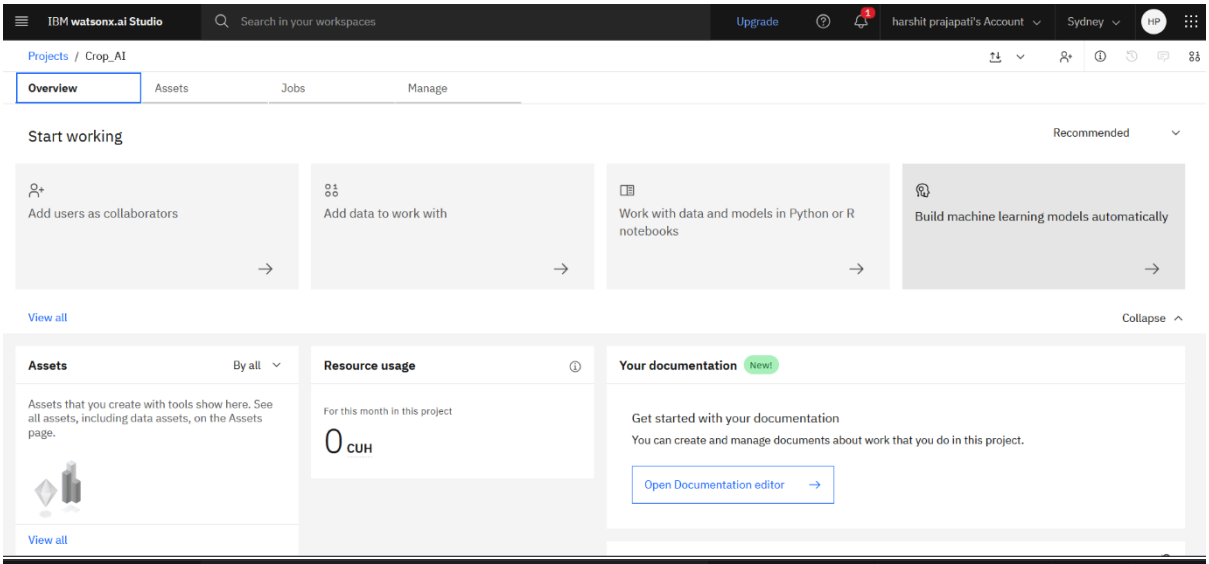
Upgrade
harshit prajapati's Account
Sydney
HP
Projects / Crop_AI
Overview
Assets
Jobs
Manage
Project
General
Access control
Environments
Resource usage
Services & integrations
Tools
Pipeline
Services & integrations
IBM services
Third-party integrations
Associate IBM Cloud services with this project to add tools, compute environments, or other capabilities.Learn more.
Find services
Associate service
Name
Service type
No services
Click Associate service or ask a project Admin to associate one


IBM watsonx.ai Studio
Search in your workspaces
Upgrade
harshit prajapati's Account
Sydney
HP
Projects / Crop_AI
Associate service
Choose an existing or add a new service to associate with your project.
1 Default
2 Locations
Find services
New service
Name
Type
Plan
Location
Status
Group
watsonx.ai Runtime-ld
watsonx.ai Runtime
Lite
Sydney
Not associated
Default
Cancel
Associate


IBM watsonx.ai Studio
Search in your workspaces
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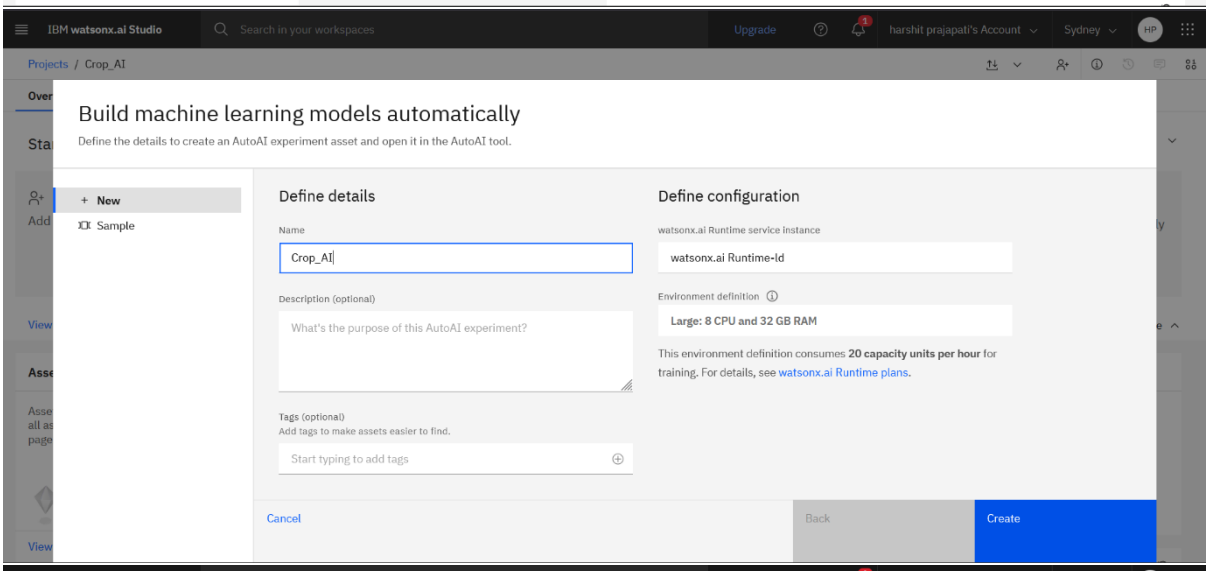
Sydney
Projects / Crop_AI
Overview
Assets
Jobs
Manage
Start working
Recommended
Add users as collaborators
Add data to work with
Work with data and models in Python or R notebooks
Build machine learning models automatically
View all
Collapse
Assets
By all
Assets that you create with tools show here. See all assets, including data assets, on the Assets page.
View all
Resource usage
For this month in this project
0 CUH
Your documentation
New!
Get started with your documentation
You can create and manage documents about work that you do in this project.
Open Documentation editor


IBM watsonx.ai Studio
Search in your workspaces
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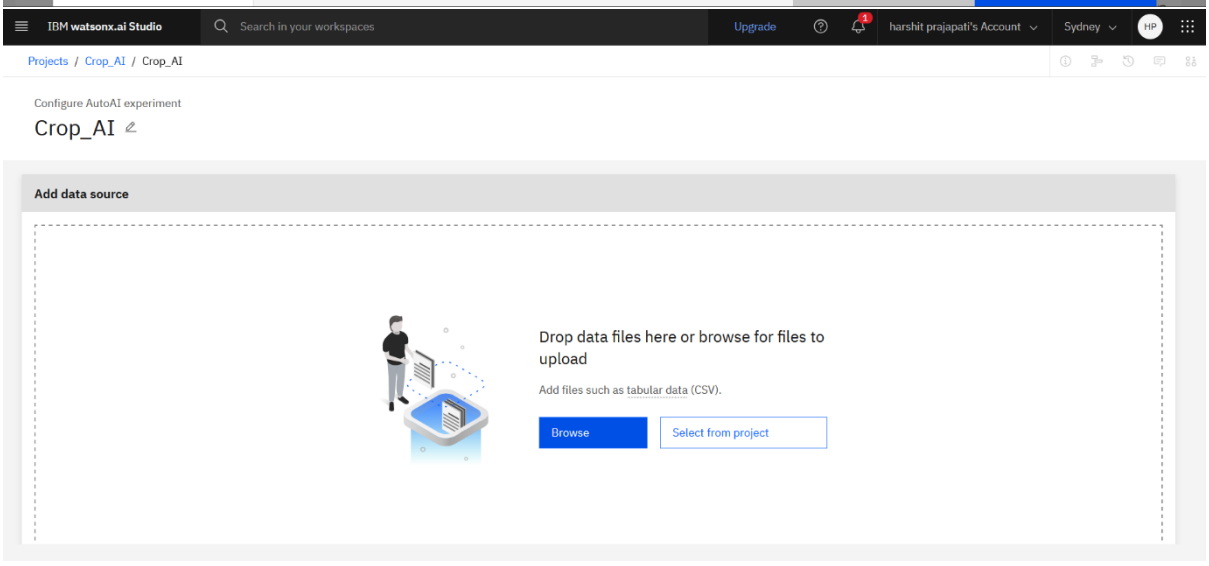
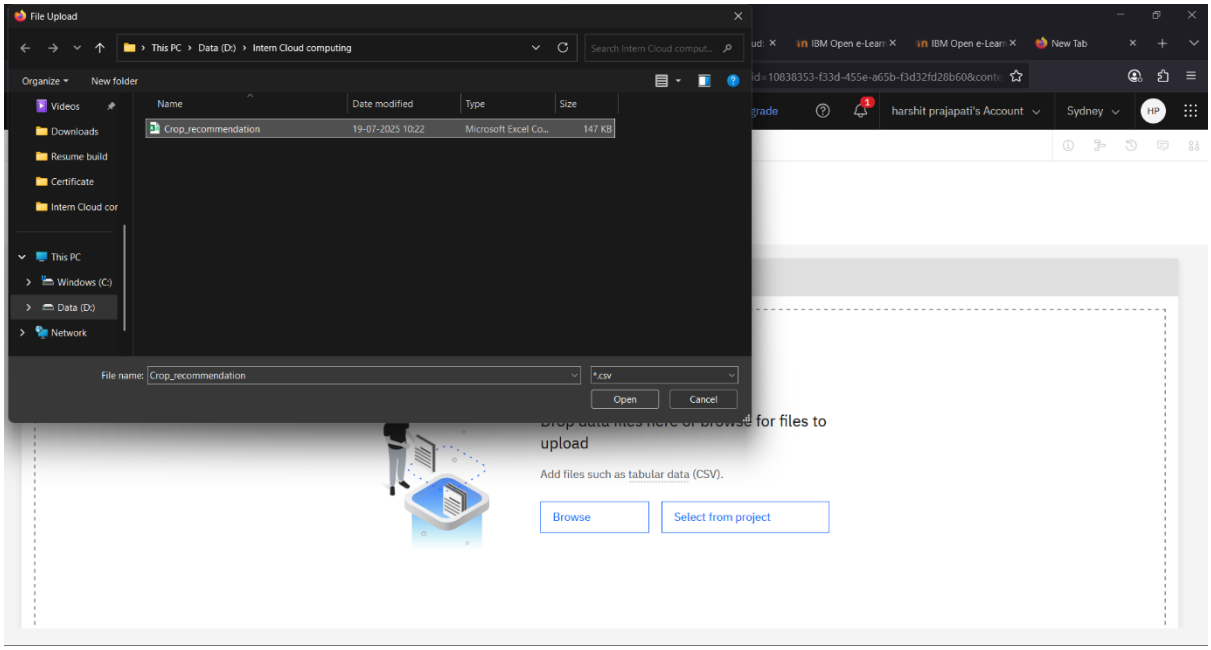
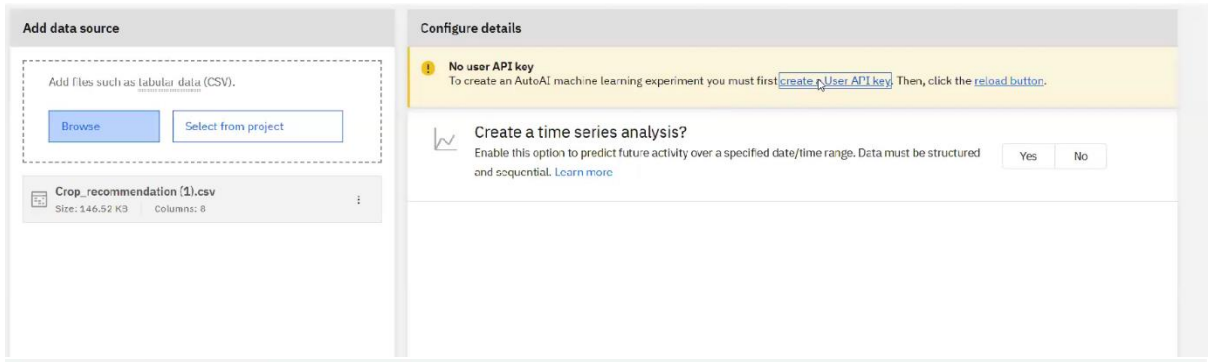
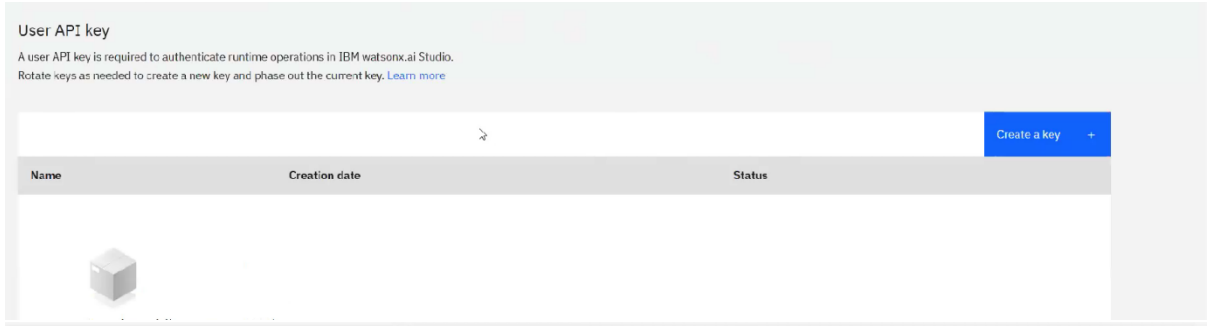
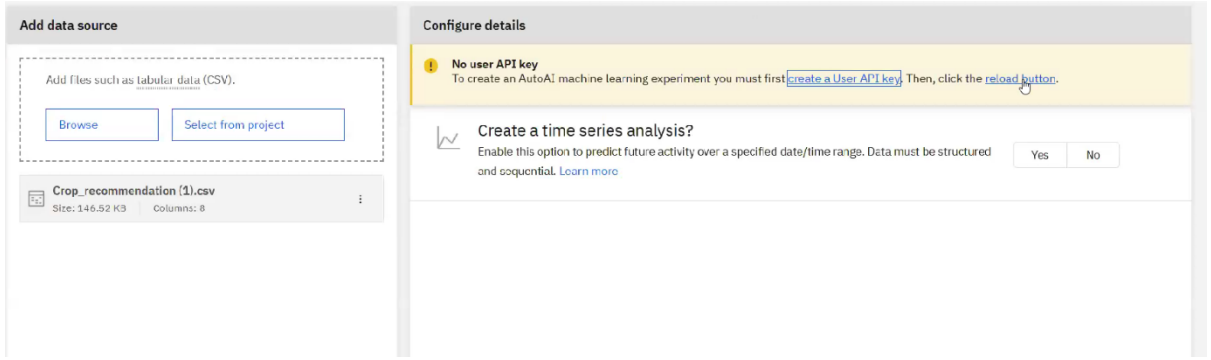
harshit prajapati's Account
Sydney
Projects / Crop_AI
Build machine learning models automatically
Define the details to create an AutoAI experiment asset and open it in the AutoAI tool.
+ New
Sample
Define details
Name
Crop_AI
Description (optional)
What's the purpose of this AutoAI experiment?
Tags (optional)
Add tags to make assets easier to find.
Start typing to add tags
Define configuration
watsonx.ai Runtime service instance
watsonx.ai Runtime-ld
Environment definition
Large: 8 CPU and 32 GB RAM
This environment definition consumes 20 capacity units per hour for training. For details, see watsonx.ai Runtime plans.
Cancel
Back
Create


IBM watsonx.ai Studio
Search in your workspaces
Upgrade
harshit prajapati's Account
Sydney
Projects / Crop_AI / Crop_AI
Configure AutoAI experiment
Crop_AI
Add data source
Drop data files here or browse for files to upload
Add files such as tabular data (CSV).
Browse
Select from project


File Upload
This PC › Data (D:) › Intern Cloud computing
Search Intern Cloud comput...
Organize
New folder
Videos
Downloads
Resume build
Certificate
Intern Cloud cor
This PC
Windows (C:)
Data (D:)
Network
Name
Date modified
Type
Size
Crop_recommendation
19-07-2025 10:22
Microsoft Excel Co...
147 KB
File name: Crop_recommendation
*.csv
Open
Cancel
harshit prajapati's Account
Sydney
for files to upload
Add files such as tabular data (CSV).
Browse
Select from project


Add data source
Add files such as tabular data (CSV).
Browse
Select from project
Crop_recommendation (1).csv
Size: 146.52 KB
Columns: 8
Configure details
No user API key
To create an AutoAI machine learning experiment you must first create a User API key. Then, click the reload button.
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


User API key
A user API key is required to authenticate runtime operations in IBM watsonx.ai Studio.
Rotate keys as needed to create a new key and phase out the current key. Learn more
Create a key
Name
Creation date
Status


Add data source
Add files such as tabular data (CSV).
Browse
Select from project
Crop_recommendation (1).csv
Size: 146.52 KB
Columns: 8
Configure details
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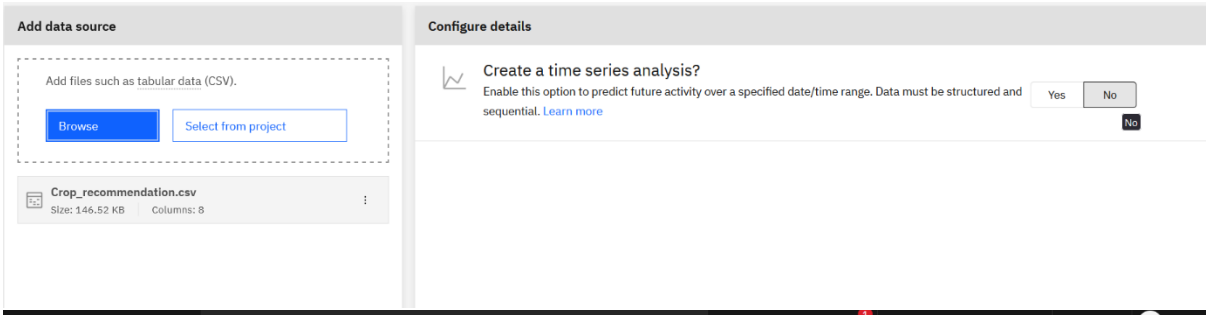
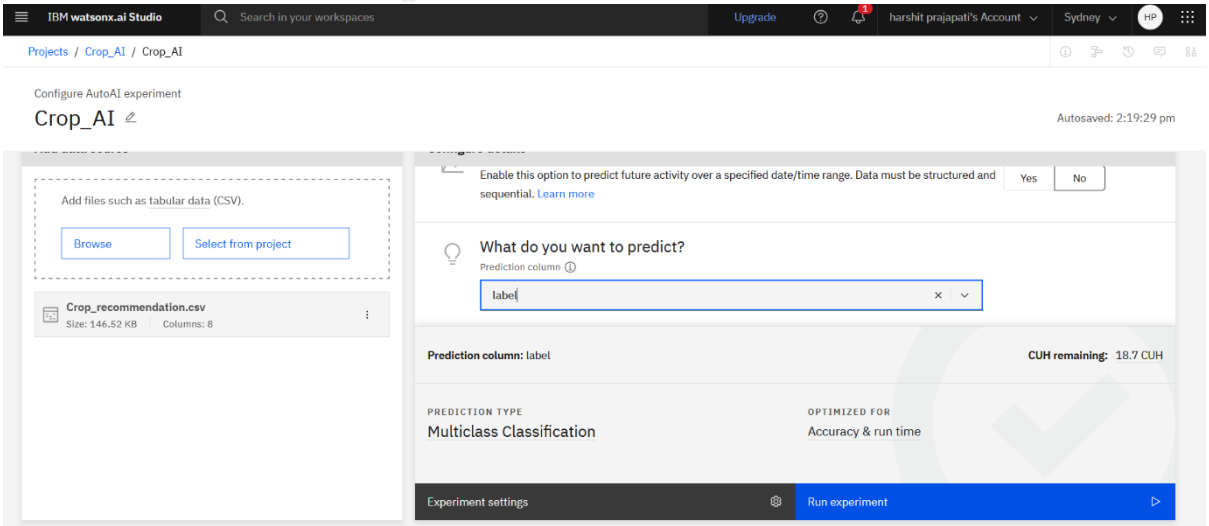
Create a time series analysis?
Enable this option to predict future activity over a specified date/time range. Data must be structured and sequential. Learn more
Yes
No


Add data source
Add files such as tabular data (CSV).
Browse
Select from project
Crop_recommendation.csv
Size: 146.52 KB
Columns: 8
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
No


IBM watsonx.ai Studio
Search in your workspaces
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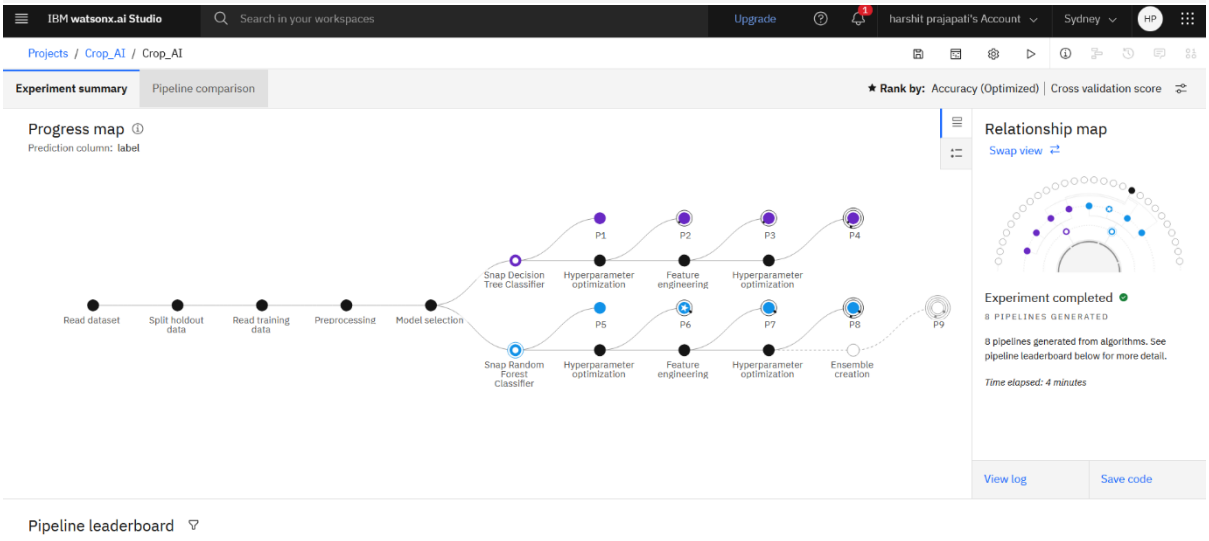
harshit prajapati's Account
Sydney
Projects / Crop_AI / Crop_AI
Configure AutoAI experiment
Crop_AI
Autosaved: 2:19:29 pm
Add files such as tabular data (CSV).
Browse
Select from project
Crop_recommendation.csv
Size: 146.52 KB
Columns: 8
Enable this option to predict future activity over a specified date/time range. Data must be structured and sequential. Learn more
Yes
No
What do you want to predict?
Prediction column
label
Prediction column: label
CUH remaining: 18.7 CUH
PREDICTION TYPE
Multiclass Classification
OPTIMIZED FOR
Accuracy & run time
Experiment settings
Run experiment


IBM watsonx.ai Studio
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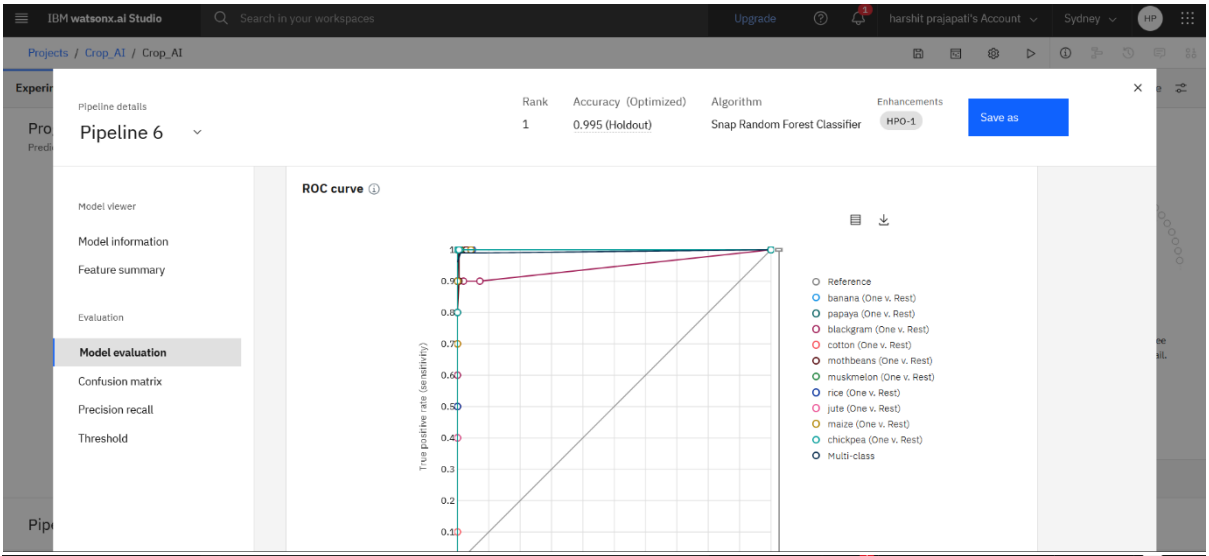
Sydney
Projects / Crop_AI / Crop_AI
Experiment summary
Pipeline comparison
Rank by: Accuracy (Optimized) | Cross validation score
Progress map
Prediction column: label
Read dataset
Split holdout data
Read training data
Preprocessing
Model selection
Snap Decision Tree Classifier
Snap Random Forest Classifier
P1
P2
P3
P4
P5
P6
P7
P8
P9
Hyperparameter optimization
Feature engineering
Hyperparameter optimization
Hyperparameter optimization
Feature engineering
Hyperparameter optimization
Ensemble creation
Relationship map
Swap view
Experiment completed
8 PIPELINES GENERATED
8 pipelines generated from algorithms. See pipeline leaderboard below for more detail.
Time elapsed: 4 minutes
View log
Save code
Pipeline leaderboard


IBM watsonx.ai Studio
Search in your workspaces
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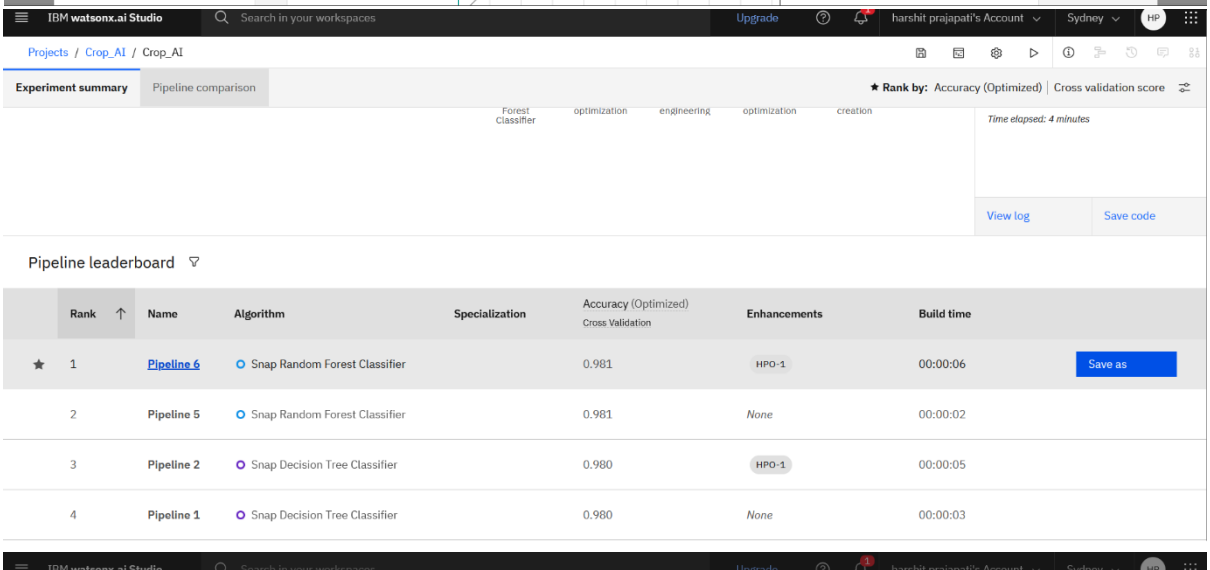
harshit prajapati's Account
Sydney
Projects / Crop_AI / Crop_AI
Pipeline details
Pipeline 6
Rank
1
Accuracy (Optimized)
0.995 (Holdout)
Algorithm
Snap Random Forest Classifier
Enhancements
HPO-1
Save as
Model viewer
Model information
Feature summary
Evaluation
Model evaluation
Confusion matrix
Precision recall
Threshold
ROC curve
True positive rate (sensitivity)
Reference
banana (One v. Rest)
papaya (One v. Rest)
blackgram (One v. Rest)
cotton (One v. Rest)
mothbeans (One v. Rest)
muskmelon (One v. Rest)
rice (One v. Rest)
jute (One v. Rest)
maize (One v. Rest)
chickpea (One v. Rest)
Multi-class


IBM watsonx.ai Studio
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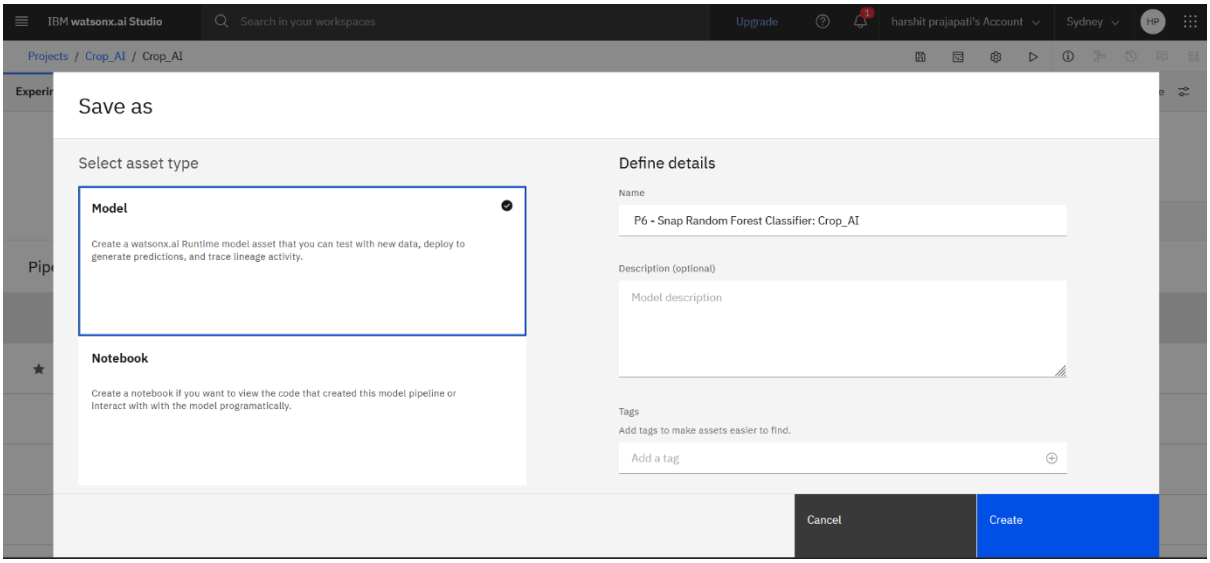
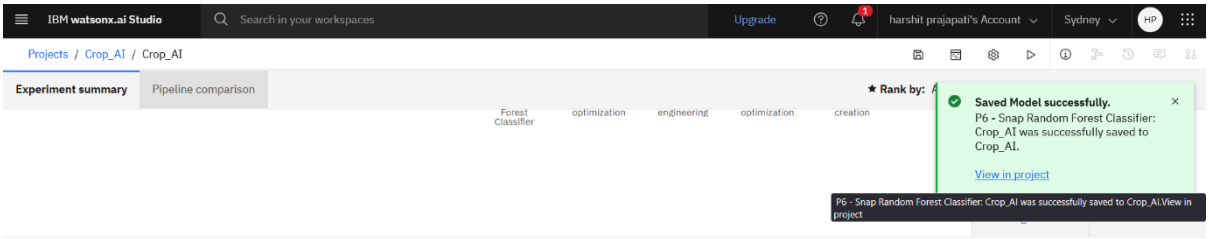
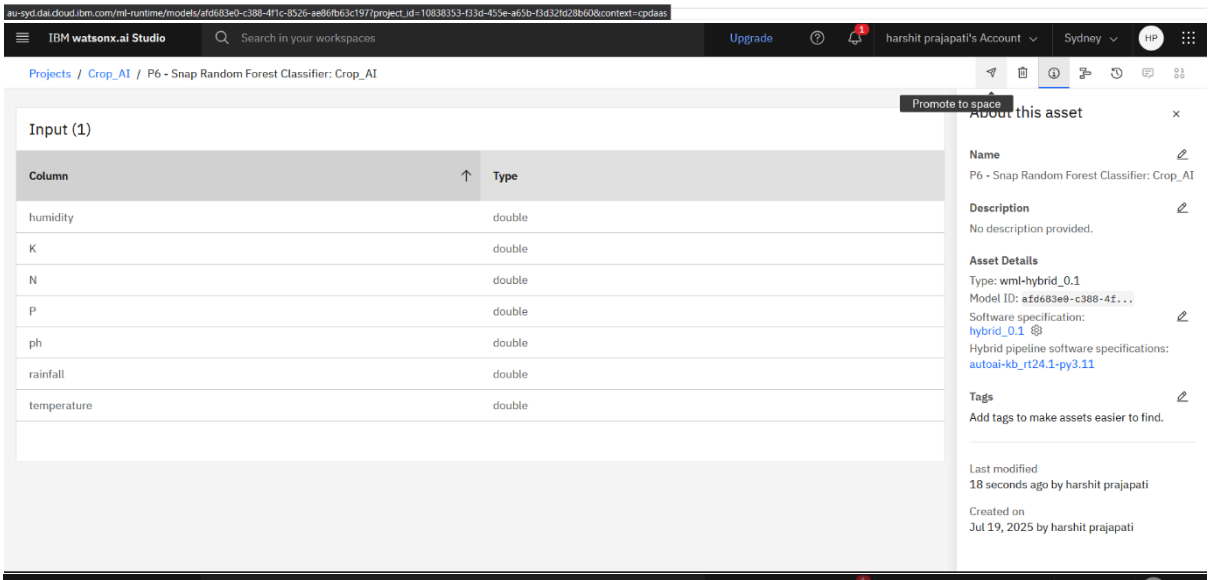
Upgrade
harshit prajapati's Account
Sydney
Projects / Crop_AI / Crop_AI
Experiment summary
Pipeline comparison
★ Rank by: Accuracy (Optimized) | Cross validation score
Time elapsed: 4 minutes
View log
Save code
Pipeline leaderboard
Rank
Name
Algorithm
Specialization
Accuracy (Optimized)
Cross Validation
Enhancements
Build time
1 Pipeline 6 Snap Random Forest Classifier 0.981 HPO-1 00:00:06 Save as
2 Pipeline 5 Snap Random Forest Classifier 0.981 None 00:00:02
3 Pipeline 2 Snap Decision Tree Classifier 0.980 HPO-1 00:00:05
4 Pipeline 1 Snap Decision Tree Classifier 0.980 None 00:00:03

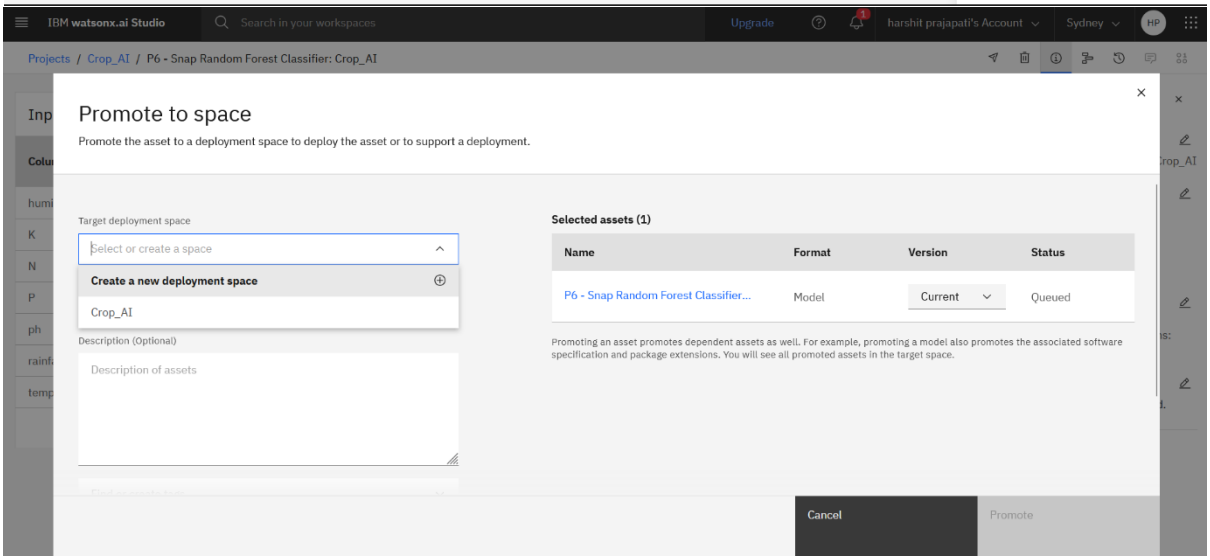

IBM watsonx.ai Studio
Search in your workspaces
Upgrade
harshit prajapati's Account
Sydney
Projects / Crop_AI / Crop_AI
Save as
Select asset type
Model
Create a watsonx.ai Runtime model asset that you can test with new data, deploy to generate predictions, and trace lineage activity.
Notebook
Create a notebook if you want to view the code that created this model pipeline or interact with with the model programatically.
Define details
Name
P6 - Snap Random Forest Classifier: Crop_AI
Description (optional)
Model description
Tags
Add tags to make assets easier to find.
Add a tag
Cancel
Create

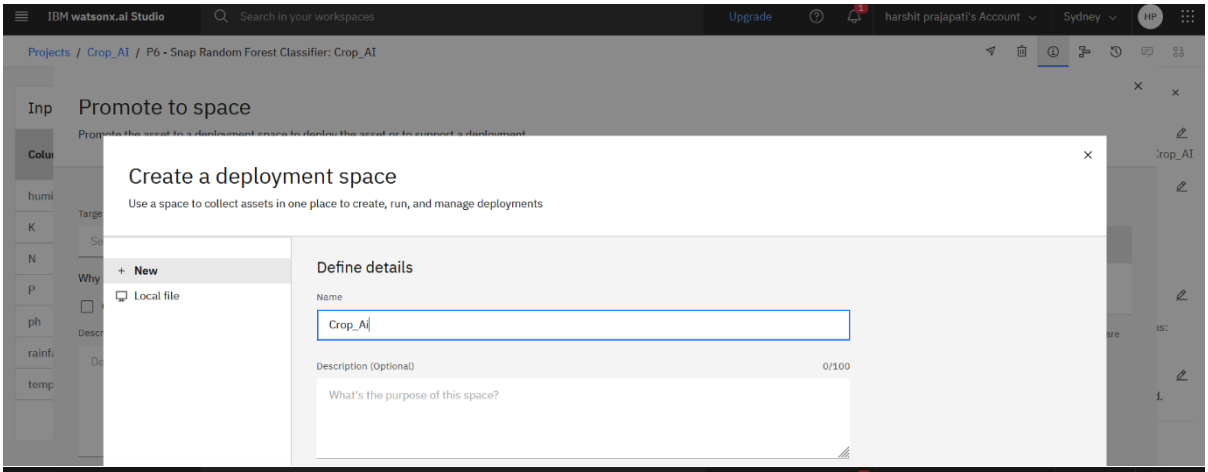



Pipeline leaderboard

| | Rank | Name | Algorithm | Specialization | Accuracy (Optimized) Cross Validation | Enhancements | Build time |
|---|---|---|---|---|---|---|---|
| ★ | 1 | Pipeline 6 | Snap Random Forest Classifier | | 0.981 | HPO-1 | 00:00:06 |
| | 2 | Pipeline 5 | Snap Random Forest Classifier | | 0.981 | None | 00:00:02 |
| | 3 | Pipeline 2 | Snap Decision Tree Classifier | | 0.980 | HPO-1 | 00:00:05 |
| | 4 | Pipeline 1 | Snap Decision Tree Classifier | | 0.980 | None | 00:00:03 |

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Search in your workspaces
Upgrade
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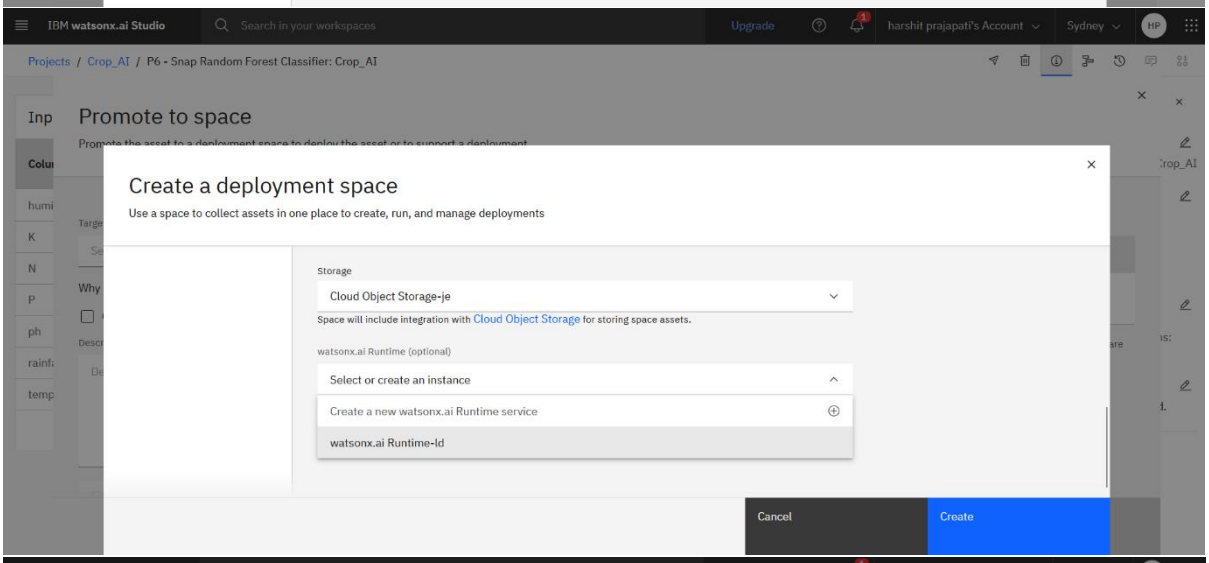
Sydney
Projects / Crop_AI / P6 - Snap Random Forest Classifier: Crop_AI
Promote to space
Create a deployment space
Use a space to collect assets in one place to create, run, and manage deployments
+ New
Local file
Define details
Name
Crop_Ai
Description (Optional)
0/100
What's the purpose of this space?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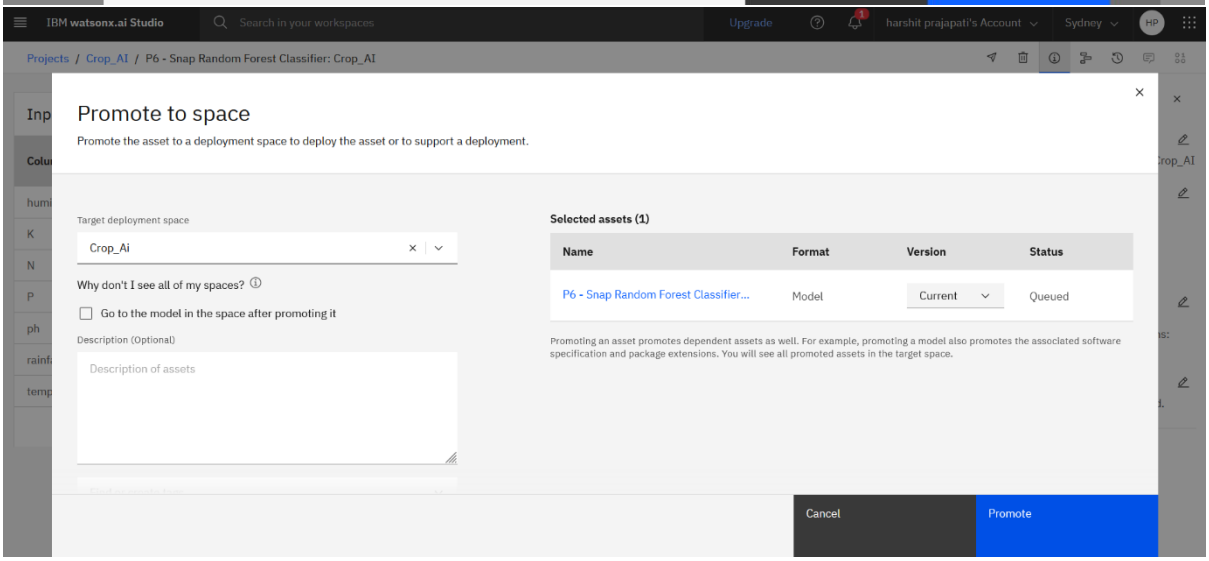
Projects / Crop_AI / P6 - Snap Random Forest Classifier: Crop_AI
Promote to space
Create a deployment space
Use a space to collect assets in one place to create, run, and manage deployments
Storage
Cloud Object Storage-je
Space will include integration with Cloud Object Storage for storing space assets.
watsonx.ai Runtime (optional)
Select or create an instance
Create a new watsonx.ai Runtime service
watsonx.ai Runtime-ld
Cancel
Create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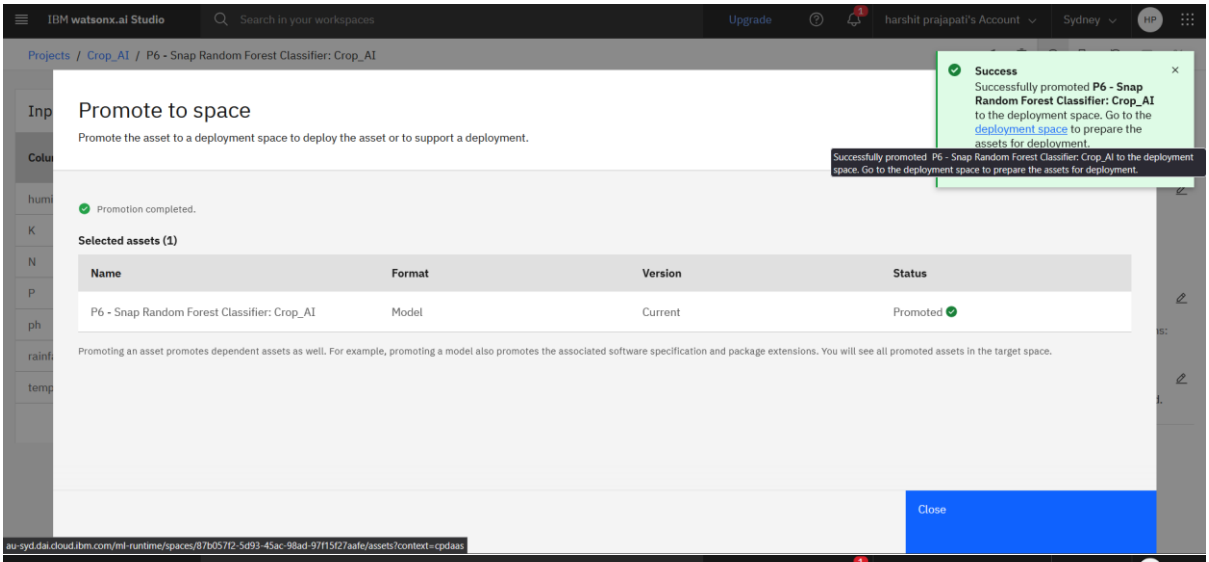
Projects / Crop_AI / P6 - Snap Random Forest Classifier: Crop_AI
Promote to space
Promote the asset to a deployment space to deploy the asset or to support a deployment.
Target deployment space
Crop_Ai
Why don't I see all of my spaces?
Go to the model in the space after promoting it
Description (Optional)
Description of assets
Selected assets (1)
Name
Format
Version
Status
P6 - Snap Random Forest Classifier...
Model
Current
Queued
Promoting an asset promotes dependent assets as well. For example, promoting a model also promotes the associated software specification and package extensions. You will see all promoted assets in the target space.
Cancel
Promote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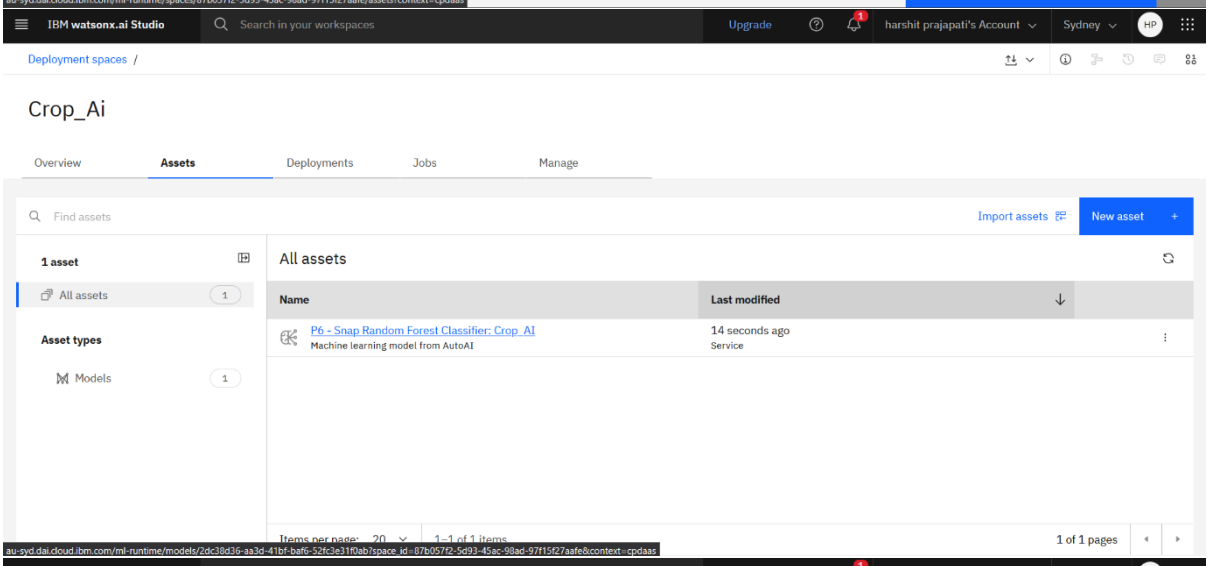
Projects / Crop_AI / P6 - Snap Random Forest Classifier: Crop_AI
Promote to space
Promote the asset to a deployment space to deploy the asset or to support a deployment.
Success
Successfully promoted P6 - Snap Random Forest Classifier: Crop_AI to the deployment space. Go to the deployment space to prepare the assets for deployment.
Promotion completed.
Selected assets (1)
Name
Format
Version
Status
P6 - Snap Random Forest Classifier: Crop_AI
Model
Current
Promoted
Promoting an asset promotes dependent assets as well. For example, promoting a model also promotes the associated software specification and package extensions. You will see all promoted assets in the target space.
Close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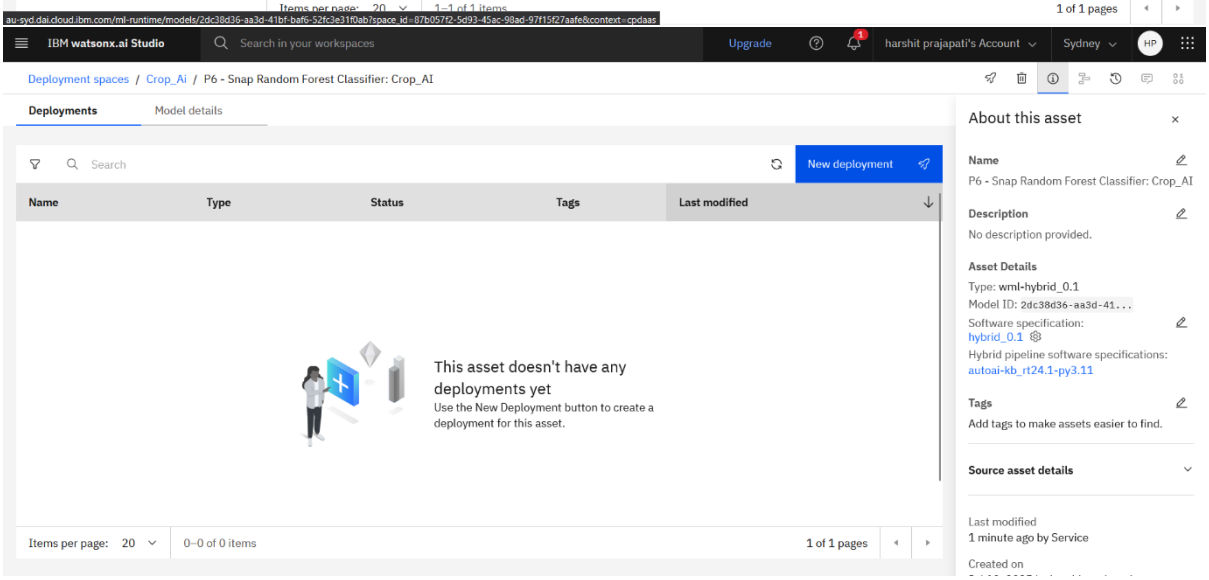
Sydney
Deployment spaces /
Crop_Ai
Overview
Assets
Deployments
Jobs
Manage
Find assets
Import assets
New asset
1 asset
All assets
Asset types
Models
All assets
Name
Last modified
P6 - Snap Random Forest Classifier: Crop_AI
Machine learning model from AutoAI
14 seconds ago
Service
Items per page: 20
1–1 of 1 items
1 of 1 pages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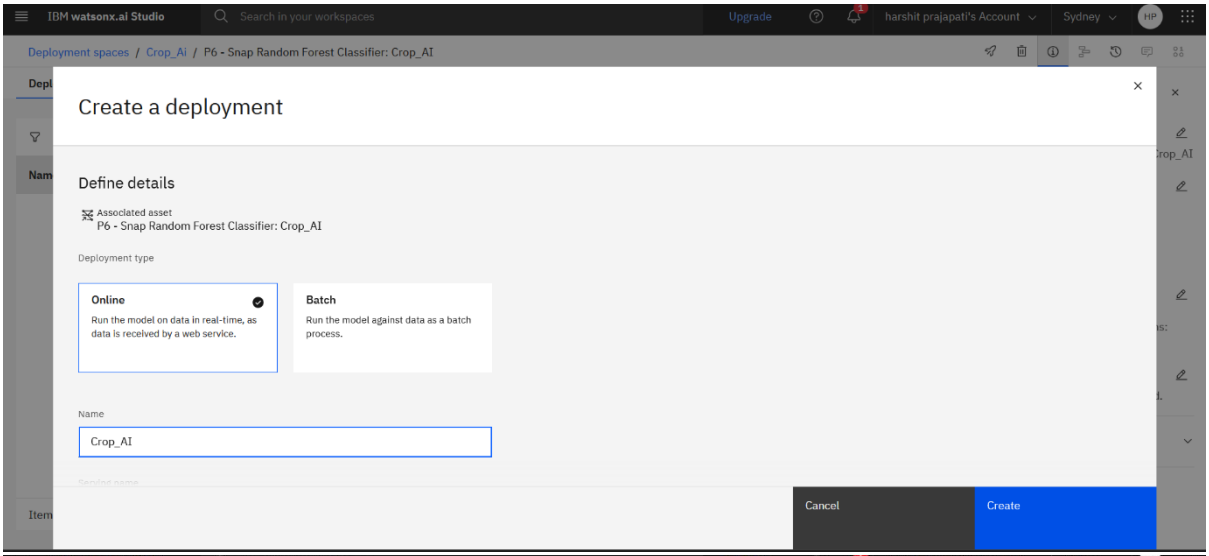
Deployment spaces / Crop_Ai / P6 - Snap Random Forest Classifier: Crop_AI
Deployments
Model details
Search
New deployment
Name
Type
Status
Tags
Last modified
This asset doesn't have any deployments yet
Use the New Deployment button to create a deployment for this asset.
Items per page: 20
0–0 of 0 items
1 of 1 pages
About this asset
Name
P6 - Snap Random Forest Classifier: Crop_AI
Description
No description provided.
Asset Details
Type: wml-hybrid_0.1
Model ID: 2dc38d36-aa3d-41...
Software specification:
hybrid_0.1
Hybrid pipeline software specifications:
autoai-kb_rt24.1-py3.11
Tags
Add tags to make assets easier to find.
Source asset details
Last modified
1 minute ago by Service
Created on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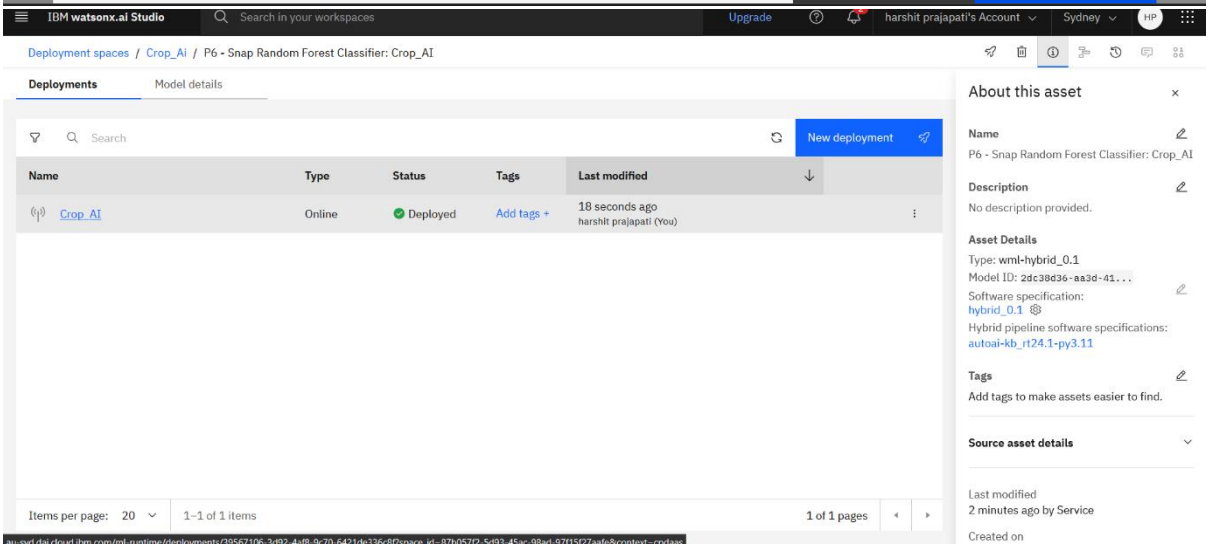
Deployment spaces / Crop_Ai / P6 - Snap Random Forest Classifier: Crop_AI
Create a deployment
Define details
Associated asset
P6 - Snap Random Forest Classifier: Crop_AI
Deployment type
Online
Run the model on data in real-time, as data is received by a web service.
Batch
Run the model against data as a batch process.
Name
Crop_AI
Cancel
Create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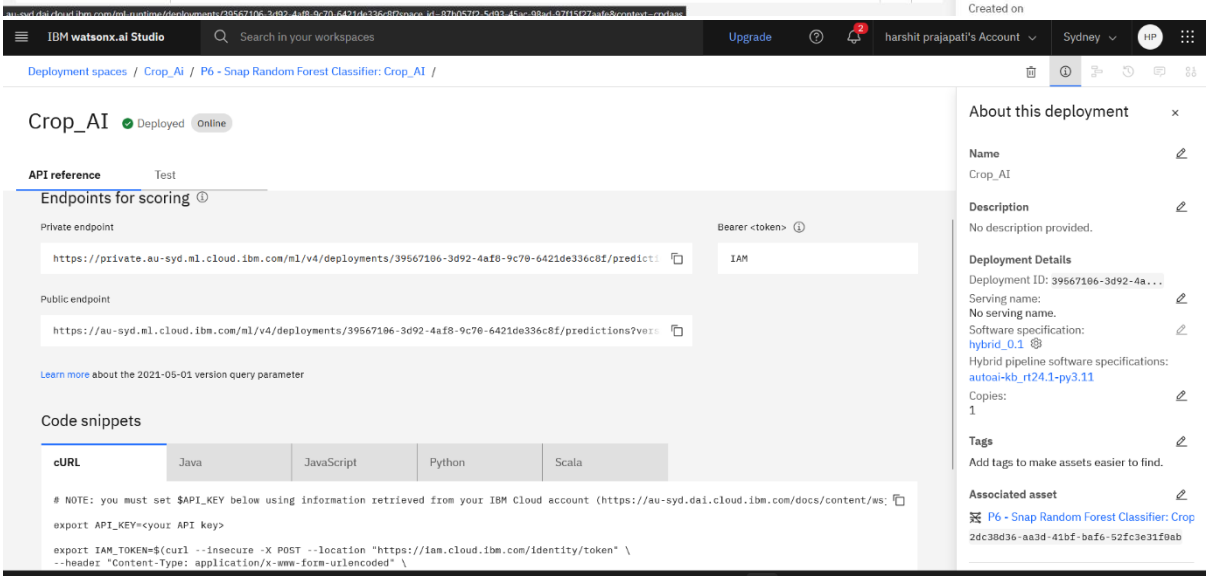
Deployment spaces / Crop_Ai / P6 - Snap Random Forest Classifier: Crop_AI
Deployments
Model details
Search
New deployment
Name
Type
Status
Tags
Last modified
Crop_AI
Online
Deployed
Add tags +
18 seconds ago
harshit prajapati (You)
Items per page: 20
1–1 of 1 items
1 of 1 pages
About this asset
Name
P6 - Snap Random Forest Classifier: Crop_AI
Description
No description provided.
Asset Details
Type: wml-hybrid_0.1
Model ID: 2dc38d36-aa3d-41...
Software specification:
hybrid_0.1
Hybrid pipeline software specifications:
autoai-kb_rt24.1-py3.11
Tags
Add tags to make assets easier to find.
Source asset details
Last modified
2 minutes ago by Service
Created on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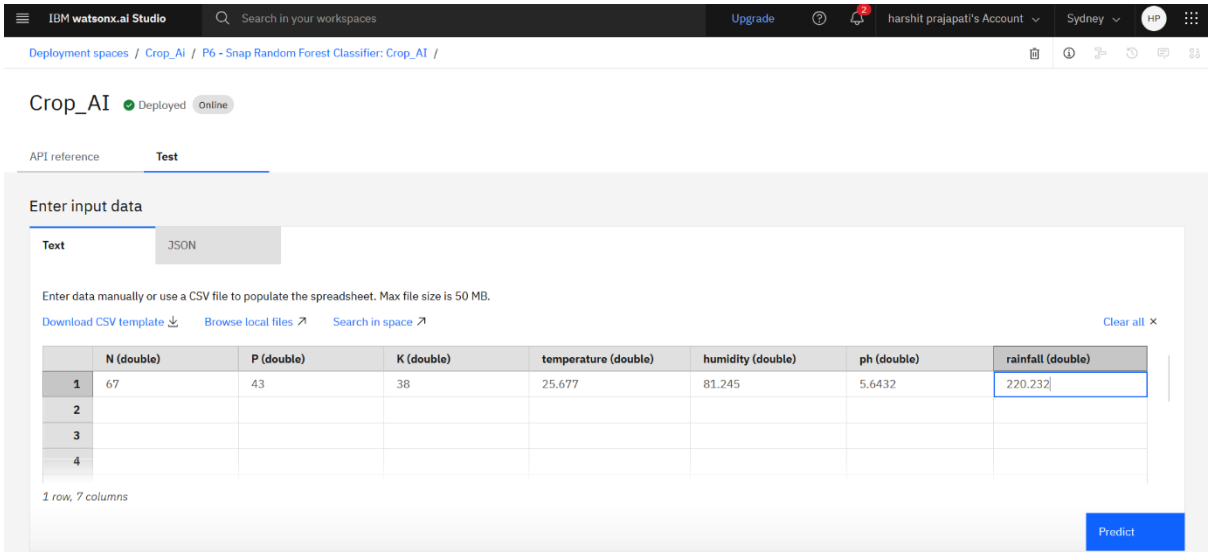
Sydney
Deployment spaces / Crop_Ai / P6 - Snap Random Forest Classifier: Crop_AI /
Crop_AI
Deployed
Online
API reference
Test
Endpoints for scoring
Private endpoint
https://private.au-syd.ml.cloud.ibm.com/ml/v4/deployments/39567106-3d92-4af8-9c70-6421de336c8f/predict
Bearer <token>
IAM
Public endpoint
https://au-syd.ml.cloud.ibm.com/ml/v4/deployments/39567106-3d92-4af8-9c70-6421de336c8f/predictions?ver
Learn more about the 2021-05-01 version query parameter
Code snippets
cURL
Java
JavaScript
Python
Scala
# NOTE: you must set $API_KEY below using information retrieved from your IBM Cloud account (https://au-syd.dai.cloud.ibm.com/docs/content/ws
export API_KEY=<your API key>
export IAM_TOKEN=$(curl --insecure -X POST --location "https://iam.cloud.ibm.com/identity/token" \
--header "Content-Type: application/x-www-form-urlencoded" \
About this deployment
Name
Crop_AI
Description
No description provided.
Deployment Details
Deployment ID: 39567106-3d92-4a...
Serving name:
No serving name.
Software specification:
hybrid_0.1
Hybrid pipeline software specifications:
autoai-kb_rt24.1-py3.11
Copies:
1
Tags
Add tags to make assets easier to find.
Associated asset
P6 - Snap Random Forest Classifier: Crop
2dc38d36-aa3d-41bf-baf6-52fc3e31f0ab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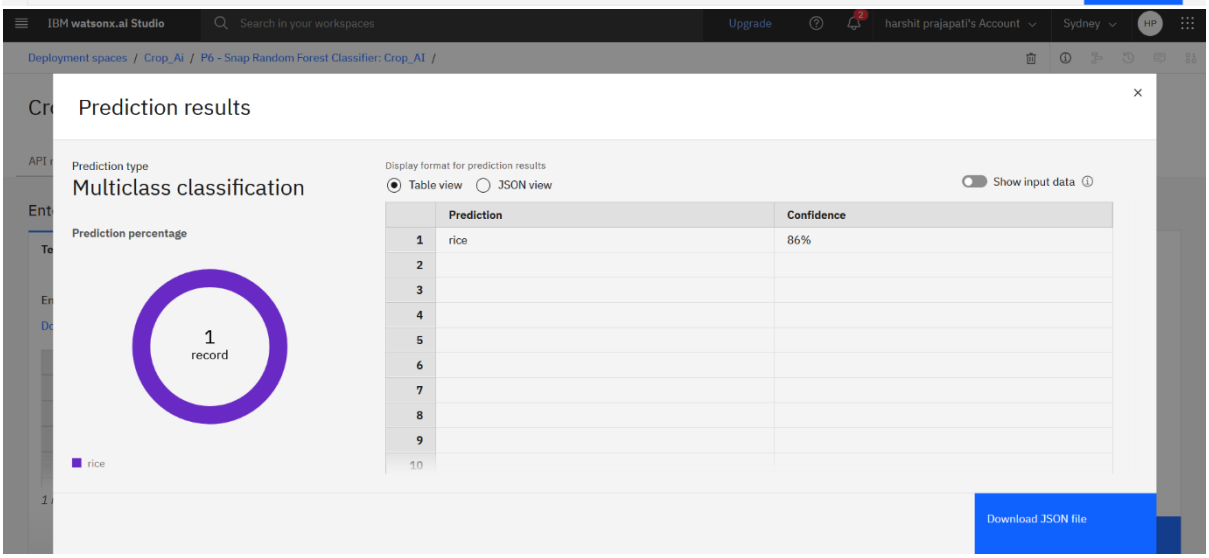
Deployment spaces / Crop_Ai / P6 - Snap Random Forest Classifier: Crop_AI /
Crop_AI
Deployed
Online
API reference
Test
Enter input data
Text
JSON
Enter data manually or use a CSV file to populate the spreadsheet. Max file size is 50 MB.
Download CSV template
Browse local files
Search in space
Clear all
N (double)
P (double)
K (double)
temperature (double)
humidity (double)
ph (double)
rainfall (double)
1
67
43
38
25.677
81.245
5.6432
220.232
2
3
4
1 row, 7 columns
Predict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Sydney
Deployment spaces / Crop_Ai / P6 - Snap Random Forest Classifier: Crop_AI /
Prediction results
Prediction type
Multiclass classification
Prediction percentage
1
record
rice
Display format for prediction results
Table view
JSON view
Show input data
Prediction
Confidence
1
rice
86%
2
3
4
5
6
7
8
9
10
Download JSON file