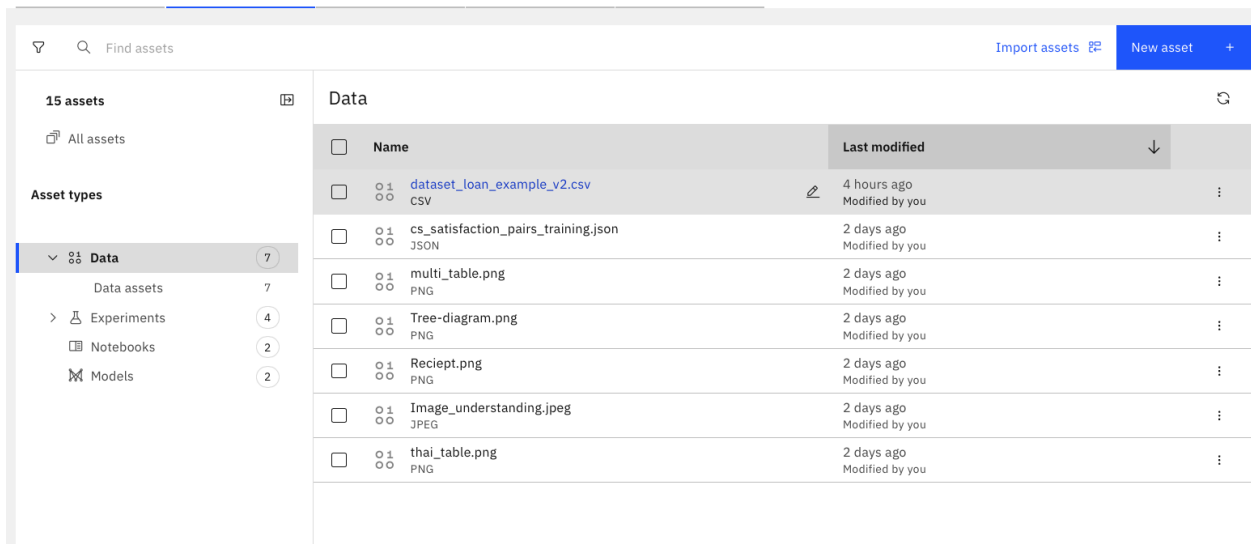


# LAB 2 Auto AI deployment

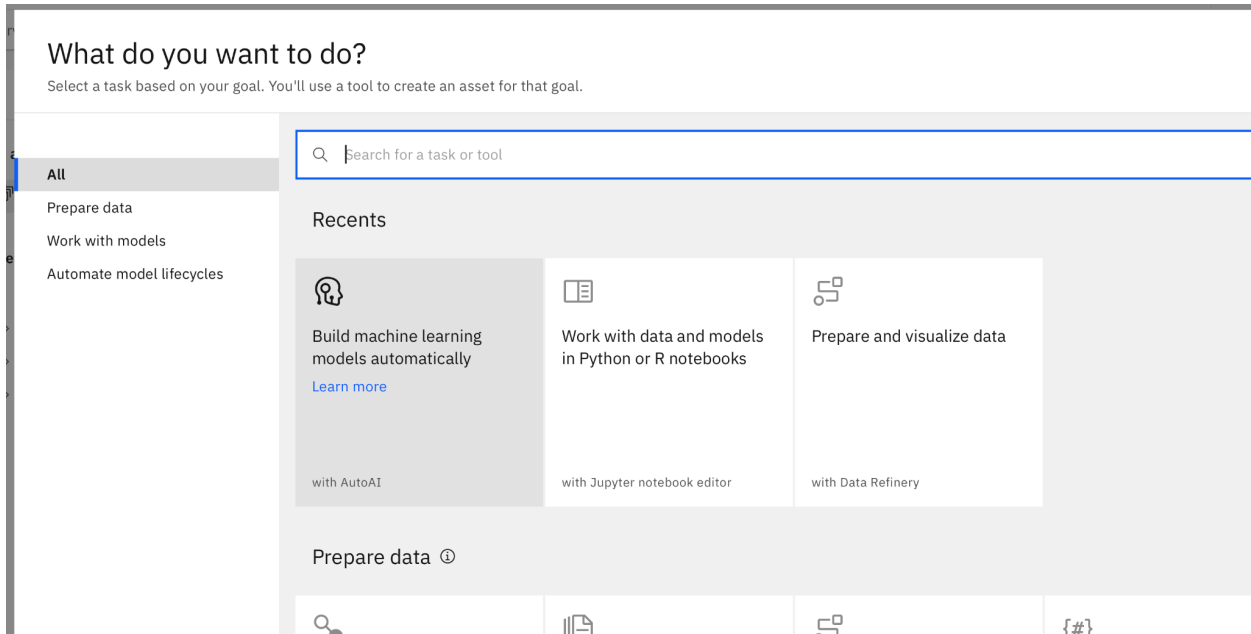
Please upload the example data [dataset\\_loan\\_example\\_v2.csv](#)  
As a new asset (see lab1)



The screenshot shows the Databricks Asset Catalog interface. On the left, there is a sidebar with a search bar and a list of assets. The main area displays a table of data assets.

Name	Last modified
<a href="#">dataset_loan_example_v2.csv</a> CSV	4 hours ago Modified by you
cs_satisfaction_pairs_training.json JSON	2 days ago Modified by you
multi_table.png PNG	2 days ago Modified by you
Tree-diagram.png PNG	2 days ago Modified by you
Reciept.png PNG	2 days ago Modified by you
Image_understanding.jpeg JPEG	2 days ago Modified by you
thai_table.png PNG	2 days ago Modified by you

In this exercise, we will create a new asset called “AutoAI”.



The screenshot shows the 'What do you want to do?' wizard in the Databricks Asset Catalog. It provides a search bar and a list of tasks to choose from.

What do you want to do?  
Select a task based on your goal. You'll use a tool to create an asset for that goal.

Search for a task or tool

Recents

- Build machine learning models automatically  
[Learn more](#)  
with AutoAI
- Work with data and models in Python or R notebooks  
with Jupyter notebook editor
- Prepare and visualize data  
with Data Refinery

Prepare data ⓘ

Please give a name to the asset then upload the data source into the asset by selecting data from project.

## 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

watsonx-enablement-loan-prediction-model

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

Watson Machine Learning Service Instance

itzml-6910005ccg-fj156br8

Environment definition ⓘ

Large: 8 CPU and 32 GB RAM

This environment definition consumes **20 capacity units per hour** for training. For details, see [Watson Machine Learning plans](#).

Cancel

Create

### Add data source

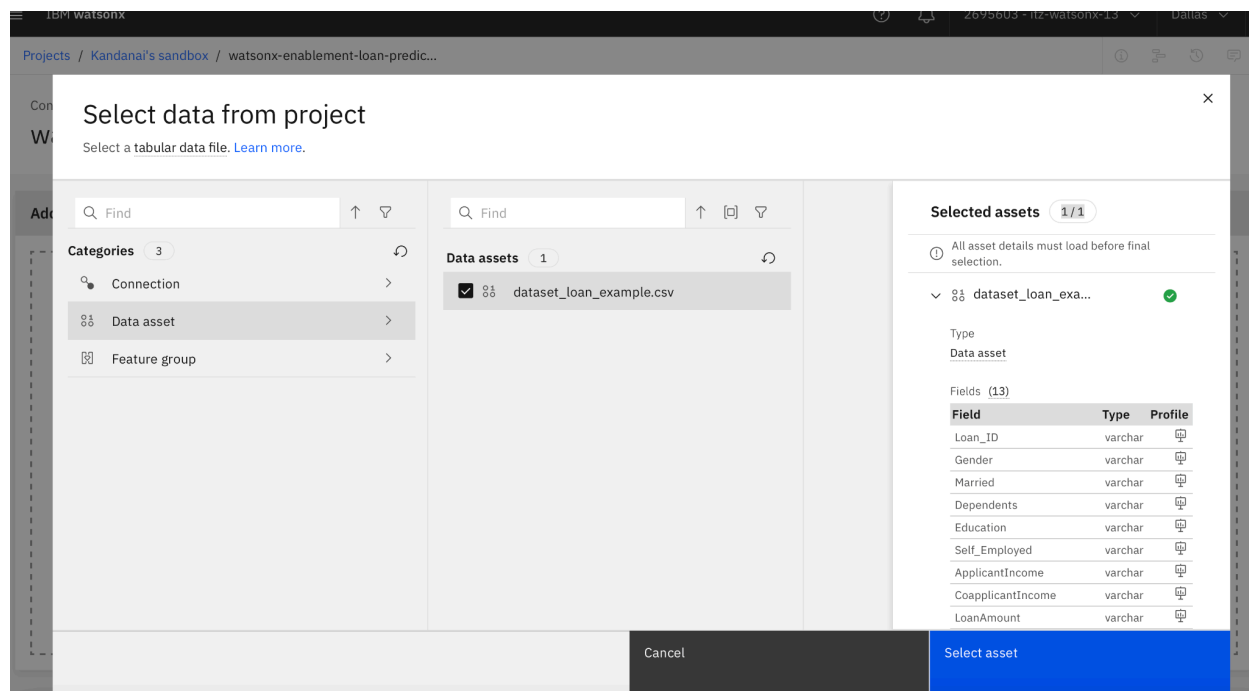


Drop data files here or  
browse for files to upload

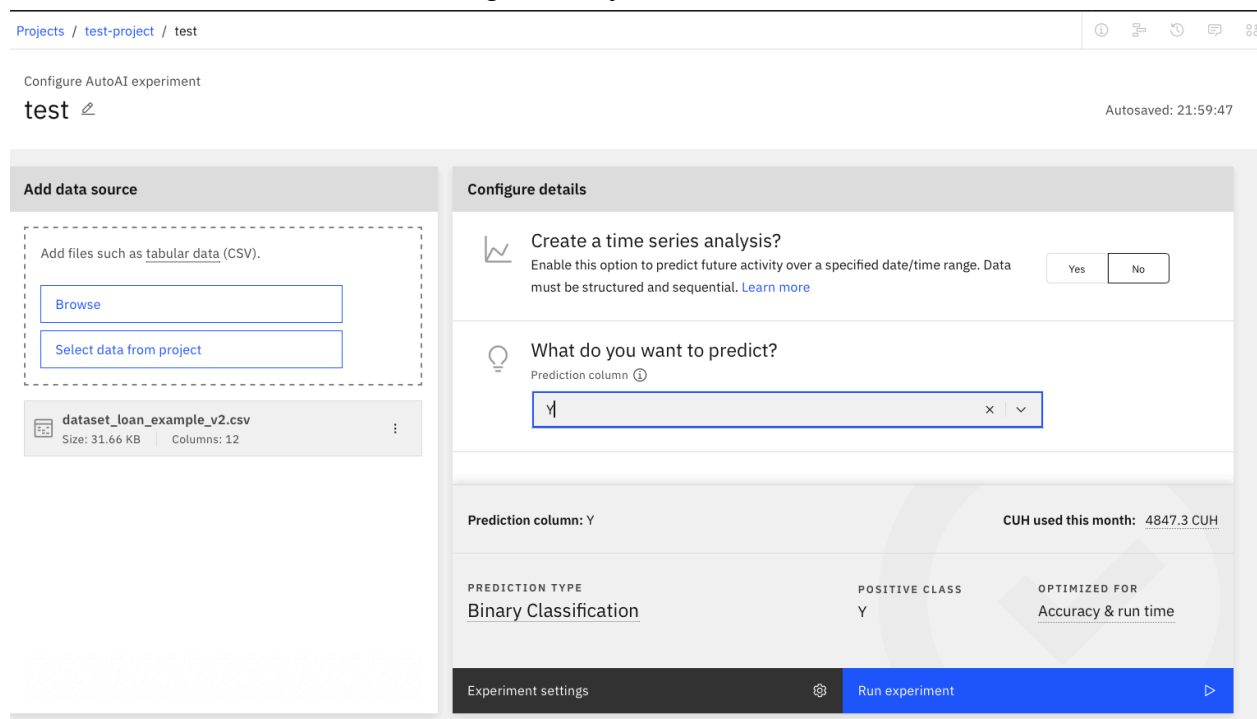
Add files such as tabular data (CSV).

Browse

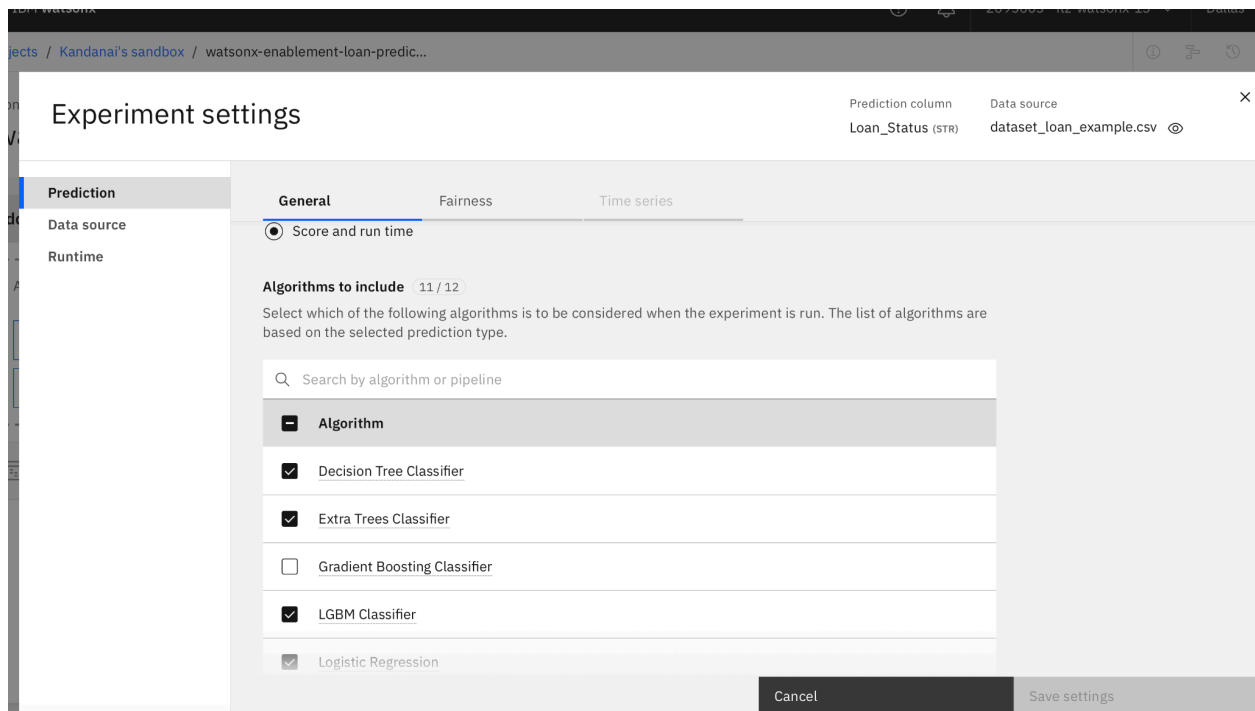
Select data from project



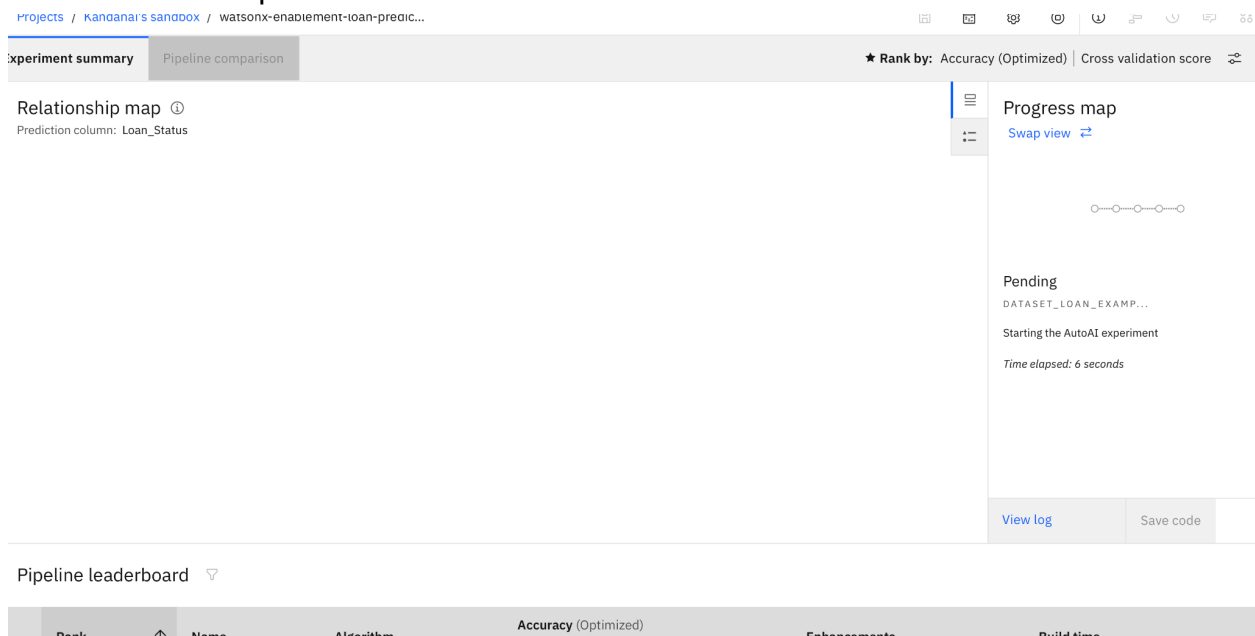
After, please fill in the form and select No for time series analysis and let the prediction column be Y. Here we will be doing a binary classification.



Take a moment and view the different algorithms supported and different usecases you can use AutoAI for.



After creating an experiment, you will see the screen below. Please wait for a couple of minutes for the experiment to finish.



After completing the experiment, you will see a list of experiments (pipelines) ranking via accuracy (as we have selected before).

IDM watsonx

2695603 - @z-watsonx-13

Dallas

Projects / Kandana's sandbox / watsonx-enablement-loan-predic...

Experiment summary

Pipeline comparison

Rank by: Accuracy (Optimized) | Cross validation score

Pipeline relationship map

Accuracy

Column: Loan\_Status

Progress map

Swap view

Experiment completed

8 PIPELINES GENERATED

8 pipelines generated from algorithms. See pipeline leaderboard below for more detail.

Time elapsed: 3 minutes

View log

Save code

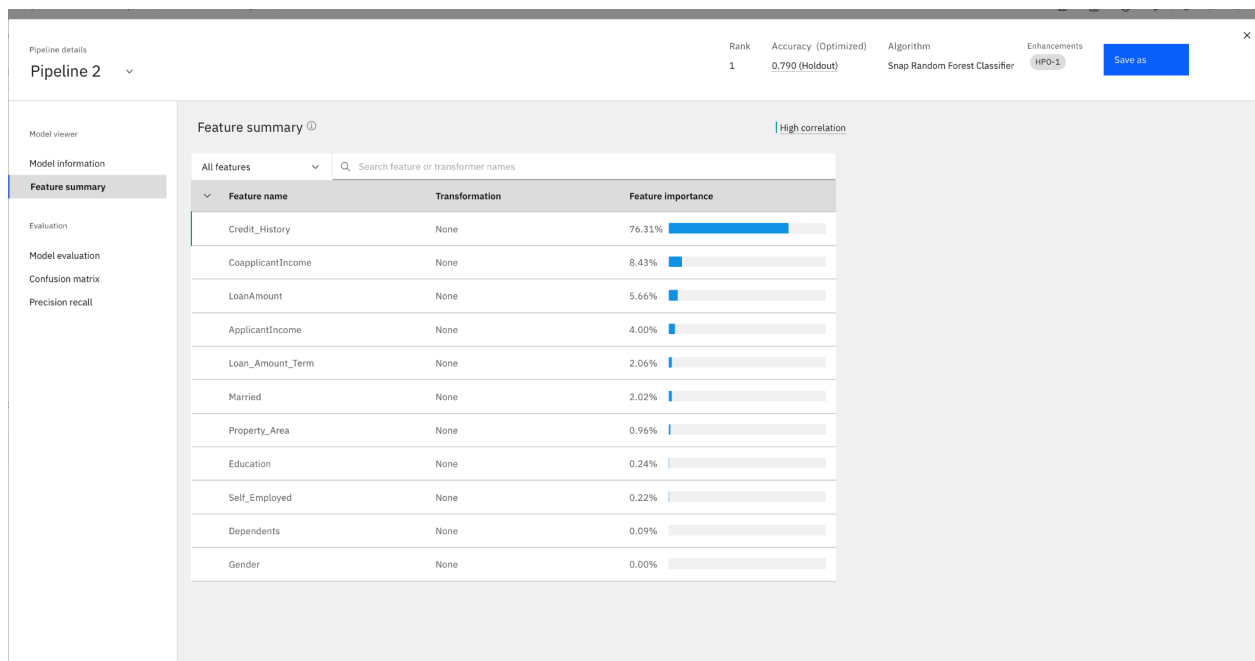
Pipeline leaderboard

	Rank	↑	Name	Algorithm	Accuracy (Optimized) Cross Validation	Enhancements	Build time
★	1		Pipeline 2	Snap Random Forest Classifier	0.810	HPO-1	00:00:06
	2		Pipeline 4	Snap Random Forest Classifier	0.808	HPO-1 FE HPO-2	00:00:29
	3		Pipeline 3	Snap Random Forest Classifier	0.808	HPO-1 FE	00:00:24
	4		Pipeline 8	Snap Logistic Regression	0.806	HPO-1 FE HPO-2	00:00:28
	5		Pipeline 7	Snap Logistic Regression	0.806	HPO-1 FE	00:00:24

Please click on the first ranked experiment and view details such as feature summary, confusion matrix and Model evaluation. AutoAI will automatically perform experiments for you.

Pipeline leaderboard

	Rank	↑	Name	Algorithm	Accuracy (Optimized) Cross Validation	Enhancements	Build time
★	1		<a href="#">Pipeline 2</a>	Snap Random Forest Classifier	0.810	HPO-1	00:00:06
	2		Pipeline 4	Snap Random Forest Classifier	0.808	HPO-1 FE HPO-2	00:00:29
	3		Pipeline 3	Snap Random Forest Classifier	0.808	HPO-1 FE	00:00:24
	4		Pipeline 8	Snap Logistic Regression	0.806	HPO-1 FE HPO-2	00:00:28
	5		Pipeline 7	Snap Logistic Regression	0.806	HPO-1 FE	00:00:24



After visualizing all the results, click on 'save as'. You can choose to save as a model which will be used later to deploy. (And also Notebook so that you can develop the model further)

Save as

Select asset type

**Model**

Create a Watson Machine Learning 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

watsonx-enablement-loan-prediction-model - P2 Snap Random Forest Classifier - Model

Description (optional)

Model description

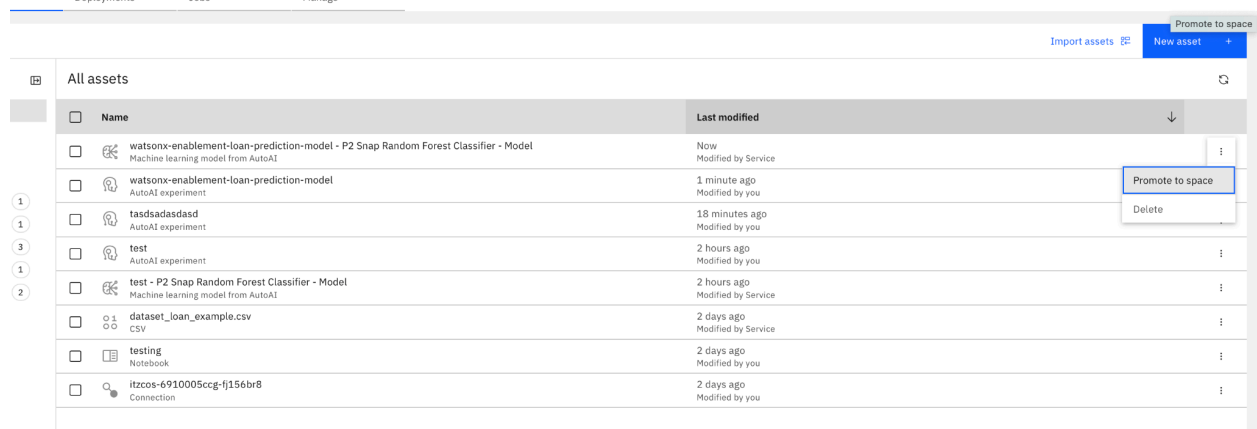
Tags

Add tags to make assets easier to find.

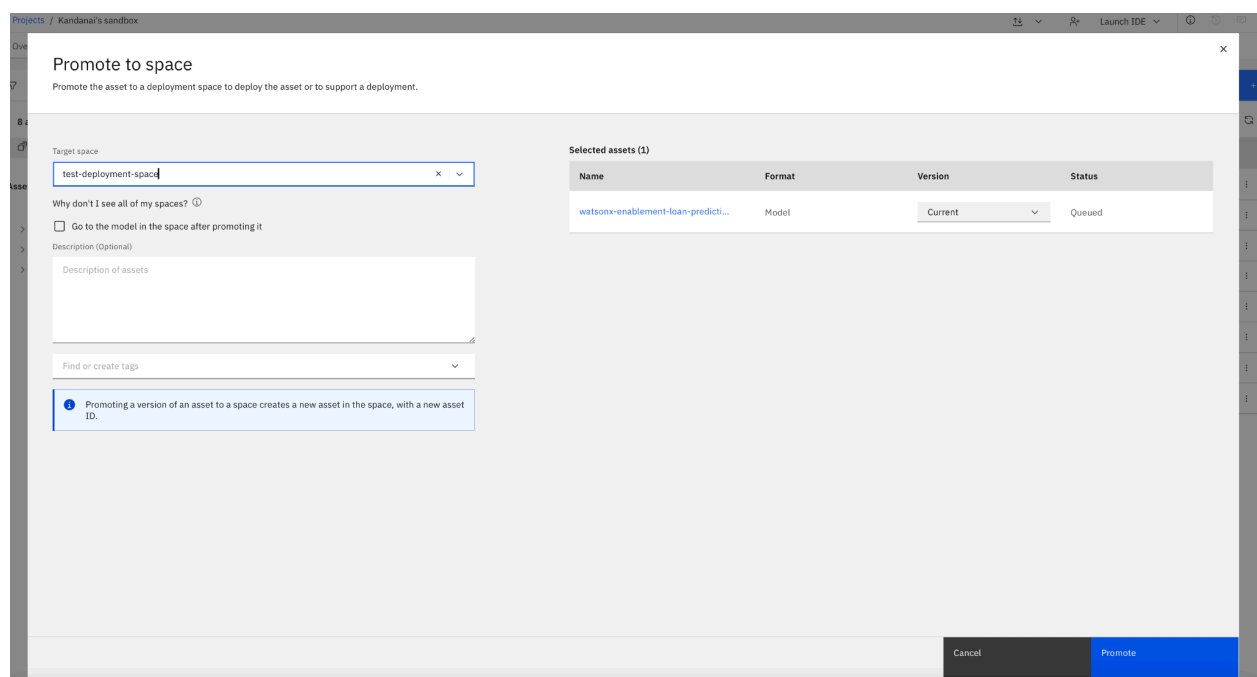
Add a tag

Cancel Create

First, you must promote the model from your project, to a deployment space. (If you haven't created one already please create a deployment space)



<input type="checkbox"/>	Name	Last modified	
<input type="checkbox"/>	watsonx-enablement-loan-prediction-model - P2 Snap Random Forest Classifier - Model Machine learning model from AutoAI	Now Modified by Service	<div><div>Promote to space</div><div>Delete</div></div>
<input type="checkbox"/>	watsonx-enablement-loan-prediction-model AutoAI experiment	1 minute ago Modified by you	
<input type="checkbox"/>	taosadasdasd AutoAI experiment	18 minutes ago Modified by you	
<input type="checkbox"/>	test AutoAI experiment	2 hours ago Modified by you	
<input type="checkbox"/>	test - P2 Snap Random Forest Classifier - Model Machine learning model from AutoAI	2 hours ago Modified by Service	
<input type="checkbox"/>	dataset_loan_example.csv CSV	2 days ago Modified by Service	
<input type="checkbox"/>	testing Notebook	2 days ago Modified by you	
<input type="checkbox"/>	itczos-6910005ccg-fj156br8 Connection	2 days ago Modified by you	



### Promote to space

Promote the asset to a deployment space to deploy the asset or to support a deployment.

Target space

test-deployment-space

Why don't I see all of my spaces?

☐ Go to the model in the space after promoting it

Description (Optional)

Description of assets

Find or create tags

Selected assets (1)

Name	Format	Version	Status
watsonx-enablement-loan-predict...	Model	Current	Queued

Cancel

Promote

Locate your deployment space and please deploy the model.

Deployments /

test-deployment-space

Overview **Assets** Deployments Jobs Manage

Find assets



Import assets

2 assets

All assets 2

Asset types

Models 2

Name	Last modified
 watsonx-enablement-loan-prediction-model - P2 Snap Random Forest Classifier - Model Machine learning model from AutoAI	6 seconds ago Service
 test - P2 Snap Random Forest Classifier - Model Machine learning model from AutoAI	2 hours ago Service

Deploy

Delete

Here we will select Online deployment, please name your deployment with appropriate name

Create a deployment

Define details

☒ Associated asset  
watsonx-enablement-loan-prediction-model - P2 Snap Random Forest Classifier - Model

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  
watsonx-enablement-model-deployment-loan

Serving name ⓘ  
watsonxloan

Description  
Deployment description

Tags  
Add tags to make assets easier to find.  
Find or create tags

Cancel Create



Deployments / test-deployment-space / watsonx-enablement-loan-prediction-model - P2 Snap Random Forest Classifier - Model

Deployments AI Factsheet

Search

New deployment

Name	Type	Status	Tags	Last modified
Watsonx-enablement-model-deployment-loan	Online	Deployed		19 seconds ago Kandanai Lee (You)

About this asset

Name  
watsonx-enablement-loan-prediction-model - P2 Snap Random Forest Classifier - Model

Description  
No description provided.

Asset Details  
Type: wmi-hybrid\_0.1  
Model ID: 2180958a-dc3e-4a...  
Software specification: hybrid\_0.1  
Hybrid pipeline software specifications: autoai-hl\_r24.1-py3.11

Tags  
Add tags to make assets easier to find.

Source asset details

Last modified  
55 seconds ago by Service  
Created on  
Sep 27, 2024 by Kandanai Lee

Once, the model is deployed you can test the deployed model via an example payload below

Deployments / test-deployment-space / watsonx-enablement-loan-prediction-model - P2 Snap Random Forest Classifier - Model

watsonx-enablement-model-deployment-loan Deployed Online

API reference Test Evaluations Transactions AI Factsheet

Enter input data

Text JSON

Manually enter or upload a file containing input data in JSON format. Max file size is 50 MB.

Browse local files Search in space

```
{
  "input_data": [
    {
      "fields": [
        "Loan_ID",
        "Gender",
        "Married",
        "Dependents",
        "Education",
        "Self_Employed",
        "ApplicantIncome",
        "CoapplicantIncome",
        "LoanAmount",
        "Loan_Amount_Term",
        "Credit_History",
        "Property_Area"
      ],
      "values": [
        ["LP001002", "Male", "Yes", "0", "Graduate", "No", 5000, 2000, 150, 360, 1, "Urban"]
      ]
    }
  ]
}
```

Predict

Example payload

```

```
{
  "input_data": [
    {
      "fields": [
        "Gender",
```

```

    "Married",
    "Dependents",
    "Education",
    "Self_Employed",
    "ApplicantIncome",
    "CoapplicantIncome",
    "LoanAmount",
    "Loan_Amount_Term",
    "Credit_History",
    "Property_Area"
  ],
  "values": [
    ["Male", "Yes", "0", "Graduate", "No", 5000, 2000,
150, 360, 1, "Urban"]
  ]
}
'''

```

