

Lab-1: Setup Environment

Introduction

This lab will set up the Cloud Pak for Data environment for subsequent labs. Cloud Pak for Data is an integrated platform of tools, services, data, and meta-data to help companies and agencies accelerate their shift to be data driven organizations. The platform enables data professionals such as data scientists, data engineers, business analysts, and application developers collaboratively work with data to build, train, deploy machine learning and deep learning models at scale to infuse AI into business to drive innovation. Cloud Pak for Data is designed to support the development and deployment of data and analytics assets for the enterprise.

Objectives

The goal of this lab is to create a Cloud Pak for Data project. Projects are a core component of Cloud Pak for Data. Projects enable you to organize your analytic and data assets in one place. Projects are also the home base for collaboration. Colleagues can be added as collaborators on a project with administrator, editor, or viewer access.

After completing this lab, you will be familiar with these features of Cloud Pak for Data.

1. Create a project
2. Associate a Machine Learning service with the project.
3. Create a Deployment Space
4. Create a Watson OpenScale instance

This lab requires that you have a Cloud Pak for Data account. Please follow the signup instructions if you do not have an account.

Create a Project

1. Log into your Cloud Pak for Data account by typing in the url **dataplatfomr.cloud.ibm.com** in your Firefox or Chrome browser.
2. Enter the **Username, Password** and click **Log in**.

Log in to IBM Cloud Pak for Data
Starter edition

Need an account? [Sign up and try for free](#)


Username [Forgot ID?](#)

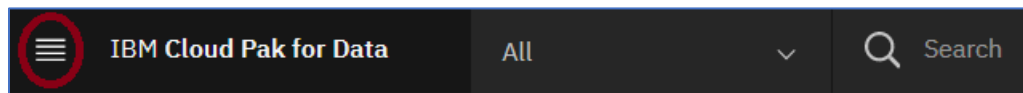
Password [Forgot password?](#)

☐ Remember ID

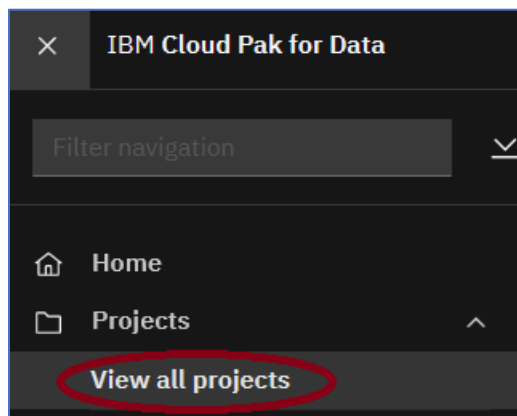
You will log into Dallas ▾

Need help? [Contact the IBM help desk](#)

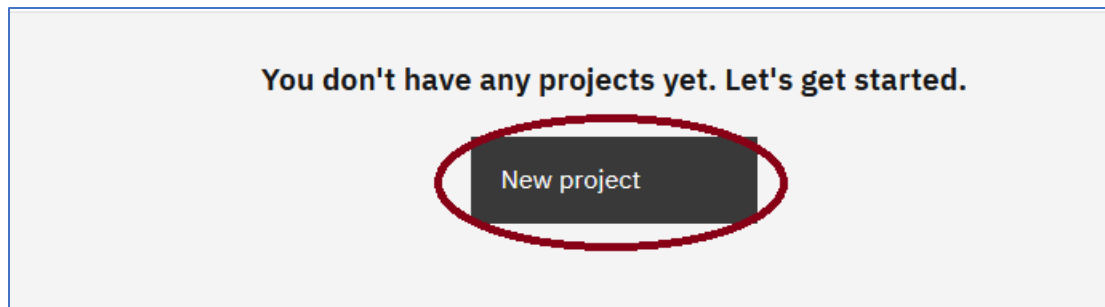
3. Click on the hamburger icon .



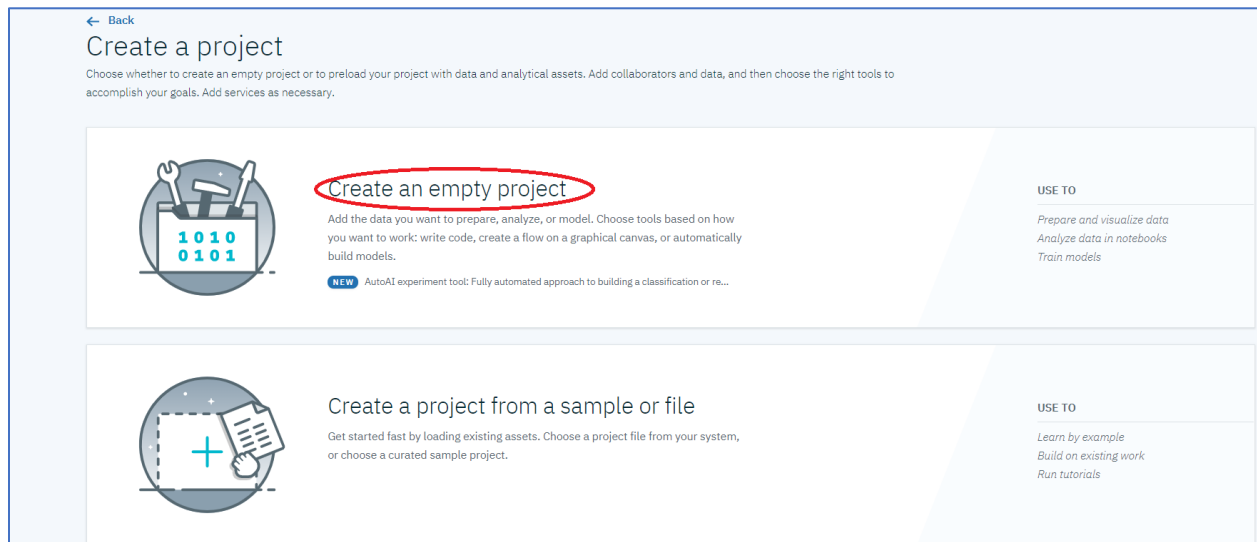
4. Click on **View All Projects**



5. Click on **New Project**.



6. Click on Create an empty project.

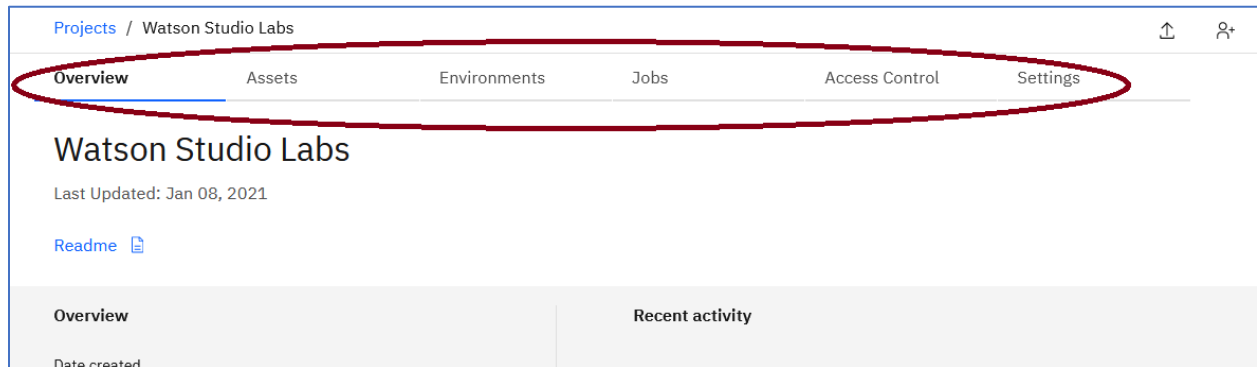


7. Enter "Watson Studio Labs" for the **Name**, optionally enter a **Description**, make sure to uncheck **Restrict who can be a collaborator** (if it's checked), and click **Create**.

A screenshot of the project creation form. The form is divided into two main sections: "Define details" and "Storage". In the "Define details" section, the "Name" field contains "Watson Studio Labs" and is circled in red. Below it is a "Description" field with the placeholder text "Project description". In the "Storage" section, the "Storage" field contains "CloudObjectStorage". Below these fields, there is a section titled "Choose project options" which contains a checkbox labeled "Restrict who can be a collaborator" with a help icon. The checkbox is unchecked and circled in red. Below this checkbox, there is a note: "Project includes integration with Cloud Object Storage for storing project assets." At the bottom right of the form, there are two buttons: "Cancel" and "Create". The "Create" button is blue and circled in red.

8. The Project **Overview** page is shown. This page provides summarized information about the project. In addition to the Overview page, are five other pages described below.

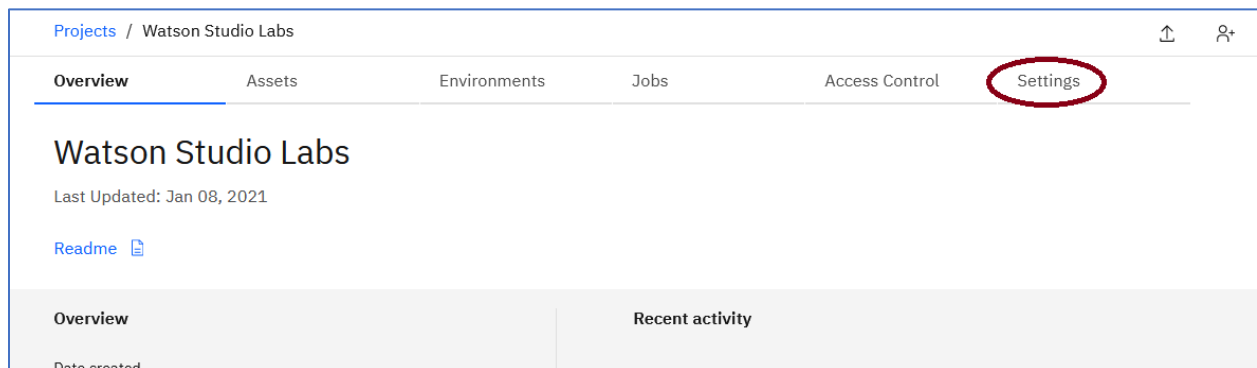
- a. **Assets Page** – Analytics and Data assets can be added to the project from this page.
- b. **Environments Page** - Provides information on the current notebook environments that are defined, lists the active notebook environments currently running, and enables users to create custom notebook environments.
- c. **Jobs Page** – Provides the interface to the job subsystem.
- d. **Access Control** – Lists the project collaborators and enables users to add/remove collaborators.
- e. **Settings** – Enables users to view and set project attributes.



Associate a Watson Machine Learning Service to the Project

To save and deploy machine learning models, a Watson Machine Learning service must be created (if one doesn't exist) and added to our project.

1. Click on **Settings** to navigate to the Project **Settings** page.



2. Scroll down to **Associated Services**, click on **Add service**, click on **Watson**.

Associated services

NAME	SERVICE TYPE	PLAN	ACTIONS
You don't have any Associated services yet.			

Access tokens

NAME	ROLE	CREATED	LAST USED	ACTIONS
You don't have any Access tokens yet.				

Integrations

Add service

- Amazon EMR Spark
- IBM Analytics Engine
- Spark
- Streaming Analytics
- Dashboard
- Watson**

3. Newer Watson Studio accounts come with the WatsonMachineLearning instance already created. Click on the checkbox adjacent to the WatsonMachineLearning (Type-Machine Learning) service and click **Associate service**. Note, if a service of Type **Machine Learning** does not exist, go to step 6.

1 item selected **Associate service** | Cancel

Name	Type	Plan	Location	Status	Group
<input checked="" type="checkbox"/> WatsonMachineLearning ⓘ	Machine Learning	Lite	Dallas	Not associated	Default

4. Click on **x** to close the window.

Service WatsonMachineLearning successfully associated with project Watson Studio Labs. X

Choose an existing or add a new service to associate with your project.

Filter by: Resource Groups Locations None

New service

Name	Type	Plan	Location	Status	Group
WatsonMachineLearning ⓘ	Machine Learning	Lite	Dallas	Not associated	Default

5. The **WatsonMachineLearning** service is associated with the project. Skip to the next section - **Create a Deployment Space**

Associated services **Add service**










NAME	SERVICE TYPE	PLAN	ACTIONS
WatsonMachineLearning	Watson - Machine Learning		

6. If a service of type Machine Learning does not exist, you will need to create the service. Click on **New service**.


New service

Name	Type	Plan	Location	Status	Group
<input checked="" type="checkbox"/> WatsonMachineLearning ⓘ	Machine Learning	Lite	Dallas	Associated	Default

7. Click on **Machine Learning**.

 <p>Watson OpenScale AI / Machine Learning</p> <p>IBM Watson OpenScale is an enterprise-grade environment for AI infused applications that provides...</p> <p>Lite • Free</p>	 <p>Watson Assistant AI / Machine Learning</p> <p>Watson Assistant lets you build conversational interfaces into any application, device, or channel.</p> <p>Lite • Free</p>	 <p>Watson Discovery AI / Machine Learning</p> <p>Add a cognitive search and content analytics engine to applications.</p> <p>Lite • Free</p>
 <p>Language Translator AI / Machine Learning</p> <p>Translate text, documents, and websites from one language to another. Create industry or region-specific...</p> <p>Lite • Free</p>	 <p>Natural Language Classifier AI / Machine Learning</p> <p>Natural Language Classifier uses advanced natural language processing and machine learning techniques to...</p> <p>Free</p>	 <p>Natural Language Understanding AI / Machine Learning</p> <p>Analyze text to extract meta-data from content such as concepts, entities, emotion, relations, sentiment and...</p> <p>Lite • Free</p>
 <p>Personality Insights AI / Machine Learning</p> <p>The Watson Personality Insights derives insights from transactional and social media data to identify...</p> <p>Lite • Free</p>	 <p>Machine Learning AI / Machine Learning</p> <p>IBM Watson Machine Learning - make smarter decisions, solve tough problems, and improve user outcomes.</p> <p>Lite • Free</p>	 <p>Speech to Text AI / Machine Learning</p> <p>Low-latency, streaming transcription</p> <p>Lite • Free</p>

8. Make sure the Lite service is selected and click **Create**.



Machine Learning

Author: IBM SPSS • Date of last update: Dec 11, 2020 • [Docs](#) • [API Docs](#)

Create About

Select a region

Select a region

Dallas

Pricing plan

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

Plan	Features	Pricing
Lite	Service instance 20 capacity unit-hours (CUH) included: Maximum 1 (one) GPU Capacity Type: • 1 (one) NVIDIA K80 GPU = 3 capacity units required per hour • 1 (one) NVIDIA V100 GPU = 10 capacity units required per hour • 1 vCPU and 4 GB RAM = 0.5 capacity units required per hour • 2 vCPU and 8 GB RAM = 1 capacity units required per hour • 4 vCPU and 16 GB RAM = 2 capacity units required per hour	Free

Summary

Machine Learning

Region: Dallas

Plan: Lite

Service name: Machine Learning-gp

Resource group: Default

Create

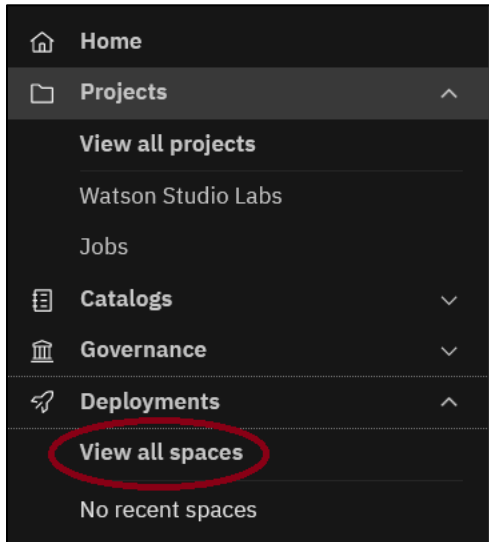
[View terms](#)

Create a Deployment Space

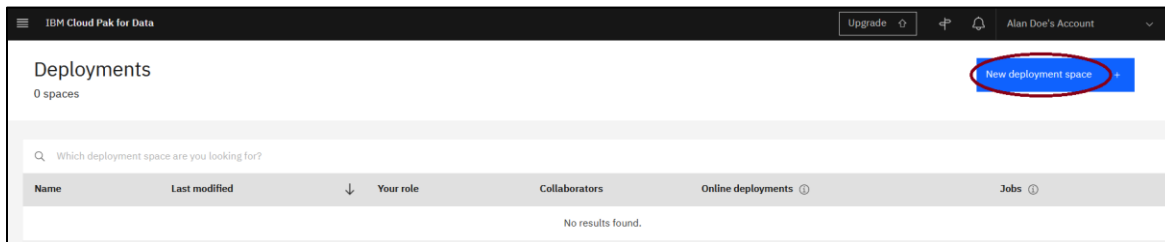
Deployment spaces are used to deploy models and manage deployments. A project is associated with one and only one deployment space. In this section, we will create a deployment space.

1. Click on the hamburger icon .

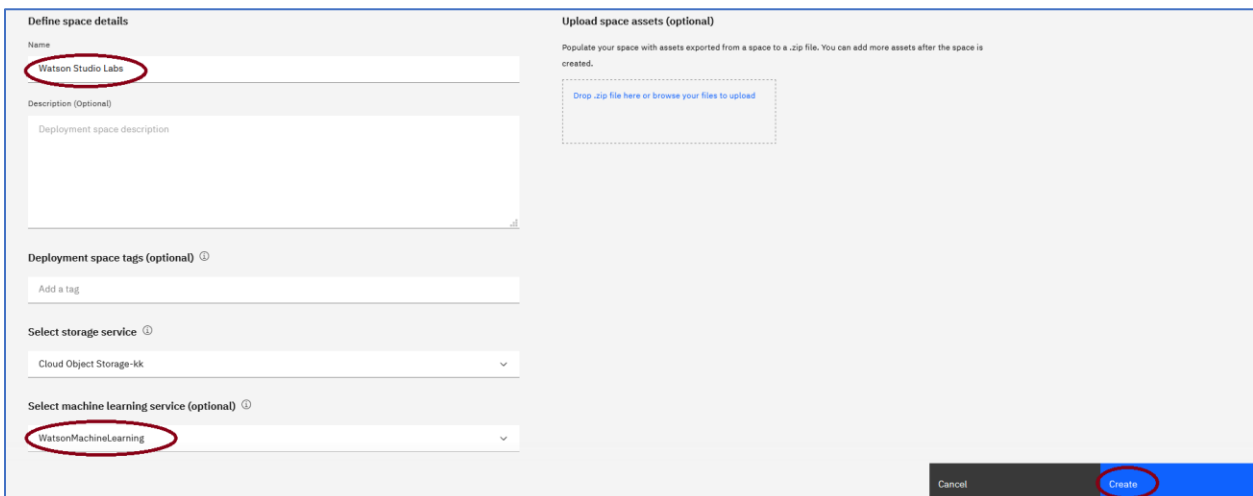
2. Click on **View all spaces** under **Deployments**



3. Click on **New deployment space**.

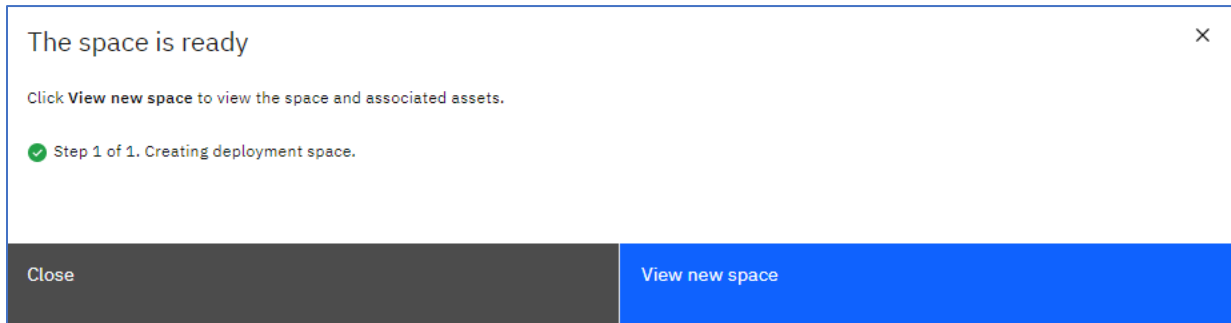


4. Enter **WatsonStudioLabs** for the **Name**, scroll down if necessary and click on **WatsonMachineLearning** for the **machine learning service** (you may need to scroll down) and click **Create**.

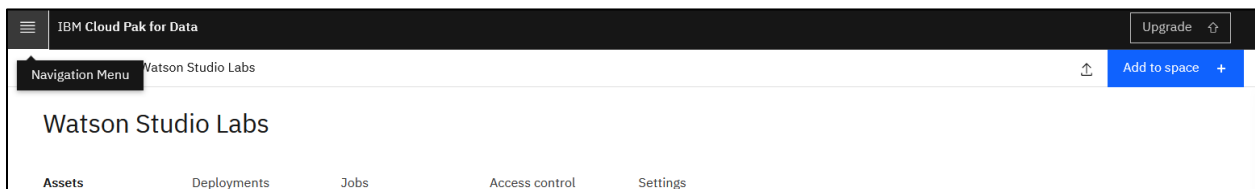


The screenshot shows the 'Define space details' form in the IBM Cloud Pak for Data interface. The form has two main sections: 'Define space details' and 'Upload space assets (optional)'. In the 'Define space details' section, the 'Name' field is 'Watson Studio Labs' (circled in red), the 'Description (Optional)' field is empty, the 'Deployment space tags (optional)' field is empty, the 'Select storage service' dropdown is 'Cloud Object Storage-xx', and the 'Select machine learning service (optional)' dropdown is 'WatsonMachineLearning' (circled in red). In the 'Upload space assets (optional)' section, there is a dashed box with the text 'Drop .zip file here or browse your files to upload'. At the bottom right, there are 'Cancel' and 'Create' buttons, with the 'Create' button circled in red.

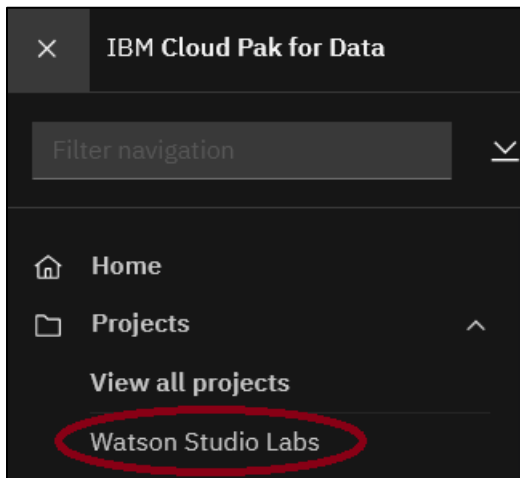
5. Click **Close**.



6. Return to the Watson Studio project by clicking on the hamburger icon ☰



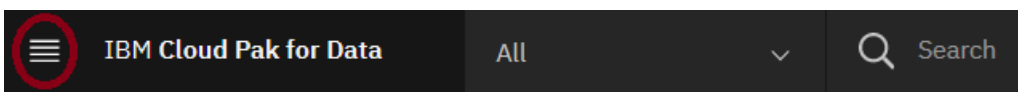
7. Click on **Watson Studio Labs** under **Projects**.



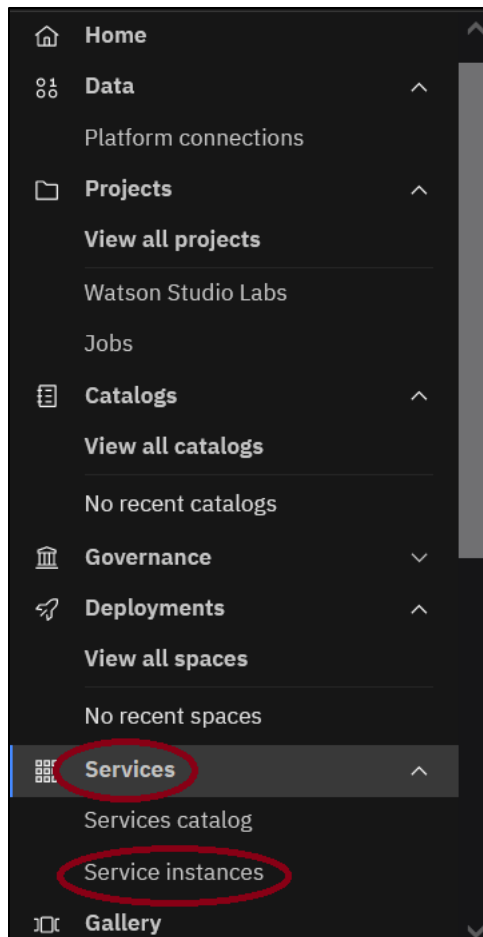
Provision Watson OpenScale

Newer Cloud Pak for Data accounts come with Watson OpenScale provisioned. In this section, we will check if Watson OpenScale has been provisioned for your account. If not, we will provision a Watson OpenScale service for use in a later lab.

1. Click on the ☰ icon.



2. Click on **Services** and then **Service instances**.



3. Check if Watson OpenScale is in the list of services.

Service instances

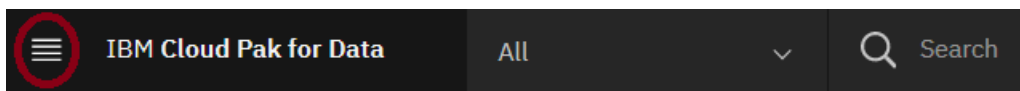
To upgrade a service plan, first [upgrade](#) your IBM Cloud account. Then choose **Upgrade service** or **Manage in IBM Cloud** from the menu in the service's row.

Filter by: Resource Groups 2 x Locations None Product Service plan

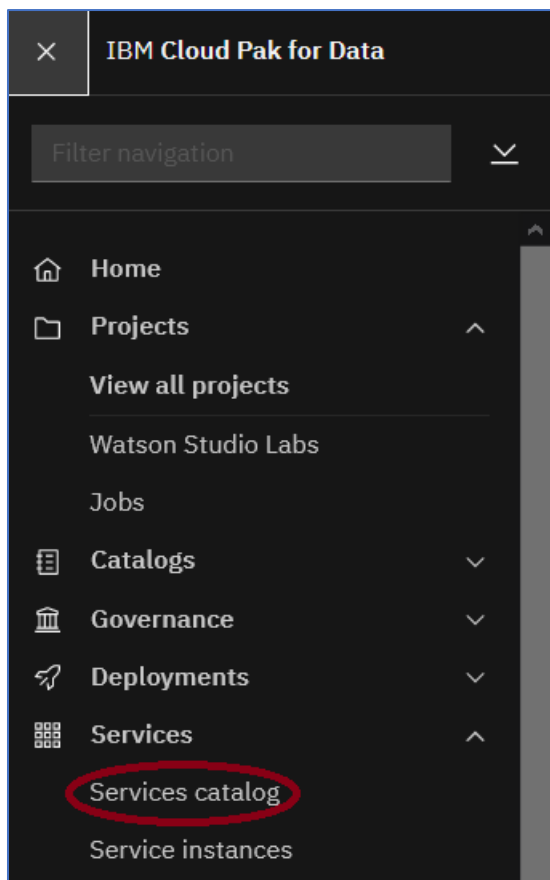
Find service instances Add service +

Name	Group	Location	Product	Plan	Status	
CloudObjectStorage ↗	Default	Global	Cloud Object Storage	Lite	Active	⋮
WatsonMachineLearning ↗	Default	Dallas	Machine Learning	Lite	Active	⋮
KnowledgeCatalog ↗	Default	Dallas	Watson Knowledge Catalog	Lite	Active	⋮
WatsonOpenScale ↗	Default	Dallas	Watson OpenScale	Lite	Active	⋮
WatsonStudio ↗	Default	Dallas	Watson Studio	Lite	Active	⋮

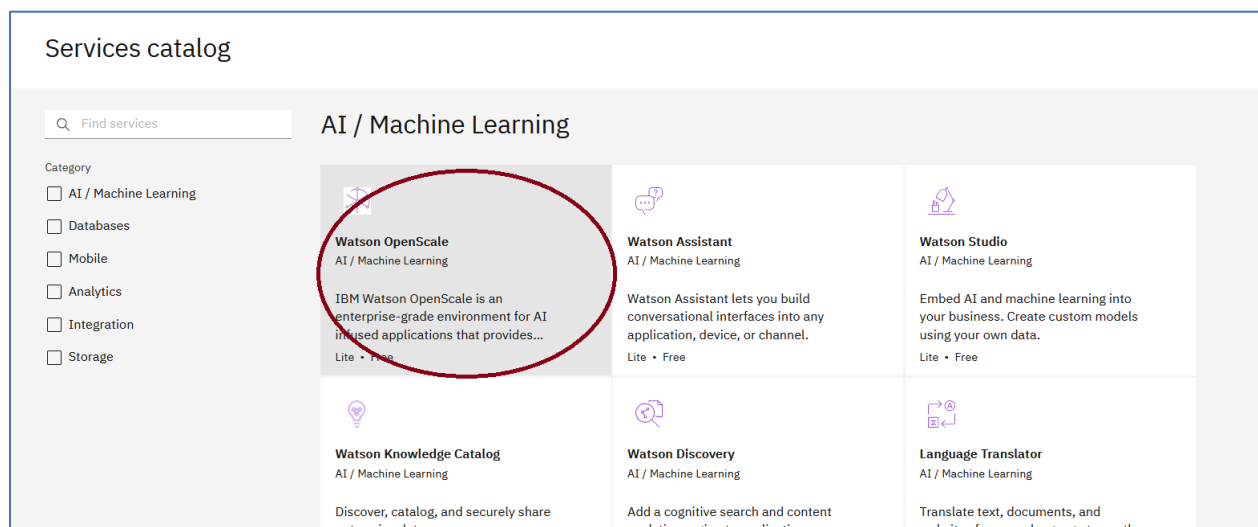
4. If Watson OpenScale is listed, skip to step 9. Otherwise, click on the icon.



5. Click on **Services**, and then **Service catalog**.



6. Click on **Watson OpenScale**



7. Make sure the Lite plan is selected and click **Create**.

Watson OpenScale
 Author: IBM • Date of last update: Jan 7, 2021 • [Docs](#) • [API Docs](#)

Create | About

Select a region

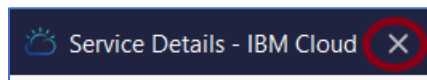
Select a region
 Dallas

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

Plan	Features	Pricing
Lite	Lite - Maximum 5 deployed models to be monitored Maximum 2 protected features per model and 50,000 payload rows (cumulative) across 5 deployed models, per month for Fairness monitoring Maximum 50,000 rows of input (cumulative) across 5 deployed models, per month for active De-Biasing Maximum 20 transactions explained per month through the Explainability feature Maximum 50,000 feedback records (cumulative) across 5 models, per month for Accuracy monitoring Internal Postgres db instance that supports the above capacity; Data cannot be migrated from this instance; If upgrading to Standard plan and continuity is required from Lite plan, please provision your own instance of paid Postgres db from IBM Cloud catalog	Free

Create

8. You can close the Service Details – IBM Cloud



9. Return to the Watson Studio project by clicking on the hamburger icon

IBM Cloud Pak for Data

Navigation Menu | Watson Studio Labs

Watson Studio Labs

Assets | Deployments | Jobs | Access control | Settings

10. Click on **Watson Studio Labs** under **Projects**.

IBM Cloud Pak for Data

Filter navigation

Home

Projects

View all projects

Watson Studio Labs

You have completed Lab-1!

- ✓ Created a project
- ✓ Associated an existing Watson Machine Learning service instance with the project
- ✓ Created a Deployment space
- ✓ Created an instance of Watson OpenScale if required.