



IBM Developer SKILLS NETWORK

Effort: 30 mins

Objective:

In this reading, you will learn the necessary background knowledge in order for you to be able to complete the final project of this course.

- Importing the Notebook in Watson Studio
- Apply data analysis and modeling techniques to housing price data.

Pre-requisite:

You need an IBM Cloud account to create a project in Watson Studio. If you don't have an account created already, click and open this [link](#) and follow the instructions, to create an IBM Cloud account.

IBM Watson Setup

If you have not created a Watson service before proceed with Step 1, otherwise go to Step 2:

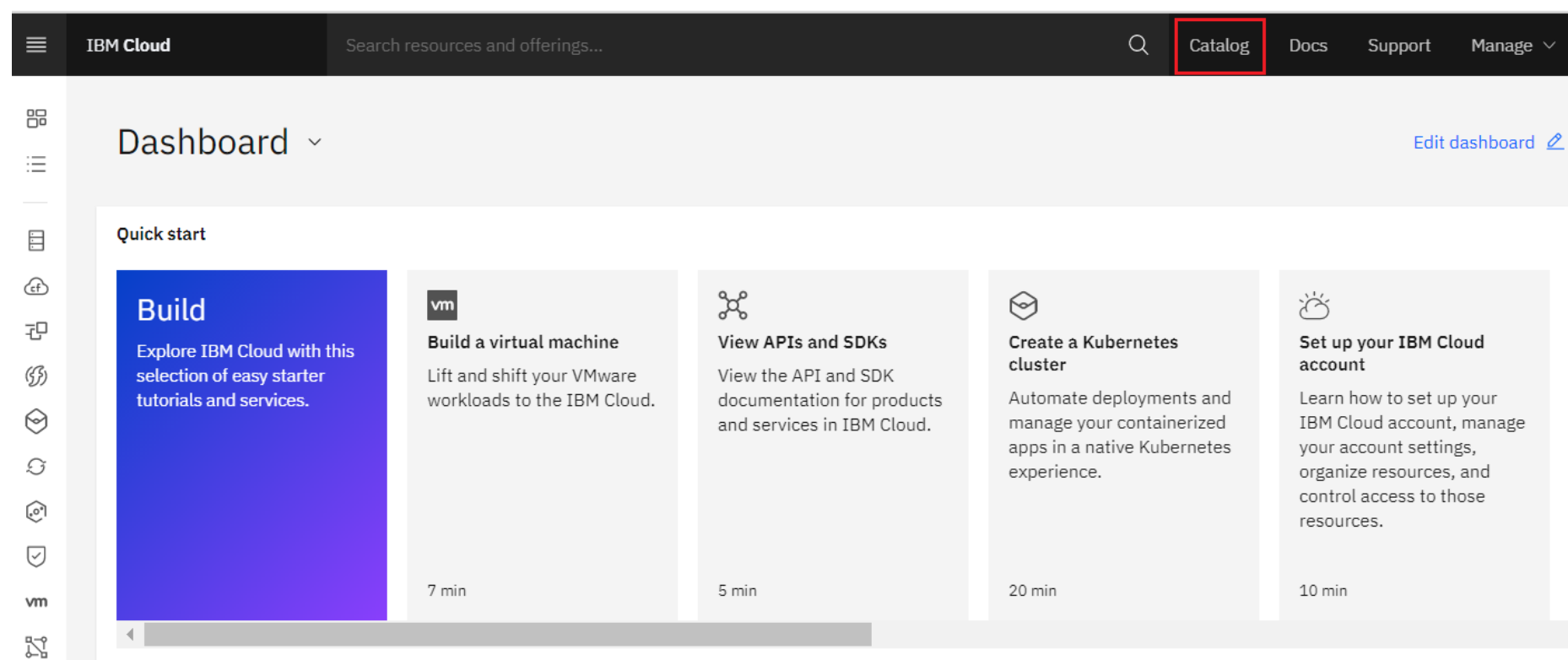
Step 1: For New Users (with no Watson service):

For this project, you will use your IBM Watson Studio account from the previous chapter.

Login to your IBM cloud account :

[Click here](#)

You will see the screen in the figure below. Click on **Catalog**.



Once the page is loaded , click on the **AI/Machine Learning** present under the **Category**.

IBM Cloud

Search resources and offerings...

IBM Cloud catalog

Search the catalog...

Category

- Recommended products
- Compute
- Containers
- Networking
- Storage
- AI / Machine Learning**
- Analytics
- Blockchain
- Databases
- Developer Tools
- Logging and Monitoring
- Migration Tools
- Integration
- Internet of Things
- Security

Accern-API
Third party • Services • Developer Tools
Get the most advanced breaking news technology for your investment strategies.
Free

AccountScore
Third party • Services • Analytics
AccountScore Open Banking & transaction analytics
Free

Alloy
Third party • Services • Developer Tools
API for identity (KYC, AML & fraud)
Free

Analytics Engine
IBM • Services • Analytics
Flexible framework to deploy Hadoop and Spark analytics applications.
Lite • Free • IAM-enabled • Service Endpoint Supported

Annotator for Clinical Data
IBM • Services • AI / Machine Learning
Analyze text to extract medical codes and concepts such as diseases, lab values, medications, procedures and more.
Lite • Free • IAM-enabled • Service Endpoint Supported

API Connect
IBM • Services • Integration
An enterprise-grade platform for creating, securing, managing, sharing, monetizing, and analyzing custom APIs located on-premises...
Lite • Free • IAM-enabled

API Gateway
IBM • Services • Developer Tools
A developer-focused solution for creating, securing, and sharing API proxies and custom APIs backed by IBM Cloud resources.
Lite • Free • IAM-enabled

App Configuration
IBM • Services • Developer Tools
Centralized, in-flight configuration for web and mobile applications and distributed environments.
Lite • Free • IAM-enabled

Select and click on **Watson Studio**.

IBM Cloud

Search resources and offerings...

IBM Cloud catalog

Search the catalog...

AI / Machine Learning

Delivery method

Deployment target

Provider

Pricing plan

Compliance

Type

Viewing 21 products

Filters: AI / Machine Learning Clear all

Watson Assistant
IBM • Services • AI / Machine Learning
Watson Assistant lets you build conversational interfaces into any application, device, or channel.
Lite • Free • IAM-enabled

Watson Studio
IBM • Services • AI / Machine Learning
Embed AI and machine learning into your business. Create custom models using your own data.
Lite • Free • IAM-enabled

Annotator for Clinical Data
IBM • Services • AI / Machine Learning
Analyze text to extract medical codes and concepts such as diseases, lab values, medications, procedures and more.
Lite • Free • IAM-enabled • Service Endpoint Supported

IBM Match 360 with Watson
IBM • Services • AI / Machine Learning • Analytics
IBM Match 360 with Watson (Match 360) improves trust in AI pipelines by identifying duplicate records and providing reliable data...
Lite • Free • IAM-enabled

Knowledge Studio
IBM • Services • AI / Machine Learning
Teach Watson the language of your domain.

Language Translator
IBM • Services • AI / Machine Learning
Translate text, documents, and websites from one language to another. Create industry or region-specific translations via the service's...

Machine Learning
IBM • Services • AI / Machine Learning
IBM Watson Machine Learning - make smarter decisions, solve tough problems, and improve user outcomes.

Natural Language Classifier
IBM • Services • AI / Machine Learning
Natural Language Classifier uses advanced natural language processing and machine learning techniques to create custom...

https://cloud.ibm.com

To create a Watson service using the Lite plan, click **Create**.

IBM Cloud

Search resources and offerings...

Q

Catalog

Docs

Support

Manage

Account

Watson Studio

LiteIBMServiceIAM-enabled

Author: IBM • Date of last update: 07/18/2019

Need Help?
Contact Support
View docs

CreateAbout

Select a region

Dallas

Select a pricing plan

Monthly prices shown are for country or region: United States

PLAN	FEATURES	PRICING
✓ Lite	1 authorized user 50 capacity unit-hours monthly limit 1 free small compute environment with 1 vCPU and 4 GB RAM (does not require capacity unit-hours)	Free
Standard v1	1 authorized user + unlimited viewer collaborators 50 capacity unit-hours included monthly (additional capacity available) Unlimited elastic compute environments Capacity Type: 1 vCPU and 4 GB RAM = 0.5 capacity units required per hour Capacity Type: 2 vCPU and 8 GB RAM = 1 capacity units required per hour Capacity Type: 3 vCPU and 12 GB RAM = 1.5 capacity units required per hour Capacity Type: 4 vCPU and 16 GB RAM = 2 capacity units required per hour Capacity Type: 8 vCPU and 32 GB RAM = 4 capacity units required per hour Capacity Type: 16 vCPU and 64 GB RAM = 8 capacity units required per hour Decision Optimization = (Capacity Type) + 20 capacity units required per hour	\$99.00 USD/Instance \$0.50 USD/Capacity Unit-Hour \$99.00 USD/Authorized User
Enterprise v2	5 authorized users + unlimited viewer collaborators 5,000 capacity unit-hours included monthly (additional capacity available) Unlimited elastic compute environments Capacity Type: 1 vCPU and 4 GB RAM = 0.5 capacity units required per hour	Expand each section to view details

View terms

CreateAdd to estimate

FEEDBACK

Now click **Launch in IBM Cloud Pak for Data**

IBM Cloud

Search resources and offerings...

Q

Catalog

Docs

Support

Manage

Resource list /

watson-studio

Active


Add tags

Details

Actions...

Manage

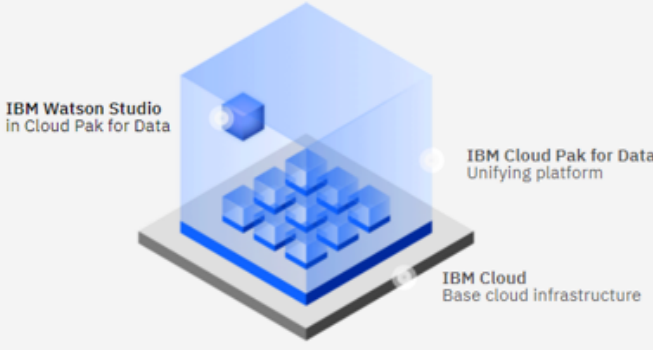
Plan



Watson Studio in Cloud Pak for Data

Watson Studio is one of the core services in Cloud Pak for Data as a Service. Build, deploy and manage AI models, and optimize decisions on IBM Cloud Pak for Data.

Launch in IBM Cloud Pak for Data



IBM Watson Studio In Cloud Pak for Data

IBM Cloud Pak for Data Unifying platform

IBM Cloud Base cloud infrastructure

IBM Watson Studio is part of IBM Cloud Pak for Data and serves as the data science capability of the data fabric architecture.

After creating the service continue with **Step 2**.

Step 2: For Existing Users (who already have Watson Service):

Go to the IBM Cloud Dashboard and click **Services**.

IBM Cloud

Search resources and offerings...

Q

Catalog

Docs

Support

Manage

IBM Cloud Pak for Data

Feedback

Dashboard

Customize

Upgrade account

Create resource

Resource summary

View resources

Services1

Add more resources

For you

Get started with using AI and Cloud Object Storage in 15 minutes.

Tutorial

Get Started with Watson Studio

Analyze and visualize open data sets by using IBM Watson Studio, a Jupyter Notebook, and Apache Spark.

Tutorial

Analyze and visualize open data

Maybe later

Maybe later

Planned maintenance

View events

Next event: Mon, Oct 28, 2019 3:00 PM

Migrate the service data store to the new IBM Cloud d...

Upcoming

The IBM Watson Machine Learning Deep Learning ser...

Update TLS certificates for select Starter Plan networks

Security and Kernel Update (Disaster Recovery Nodes)

Location status

View status

Asia Pacific

Europe

North America

South America

Usage

View usage

You can view usage for billable resources here.

Apps

You can view your apps here after you create them. Learn more about how to get started.

Create an app

Support cases

View support

You can view a summary of your support cases here after you submit them. Learn more about how to get support.

User access

Manage users

Working alone is no fun. With the right permissions, you can see other users when they join this account. Learn more about users and access.

Invite users

Learn

View more

Extend your resources with tools

Manage your account and users

Check out our solution tutorials

IBM Developer

Architecture Center

IBM Skills Gateway

When you click on Services, all your existing services will be shown in the list. Click the **Watson Studio** service you created:

IBM Cloud

Search resources and offerings...

Q

Catalog

Docs

Support

Manage

IBM Cloud Pak for Data

Feedback

Resource list

Create resource

Collapse all | Expand all

Name	Group	Location	Offering	Status	Tags
Filter by name or IP address...	Filter by group or org...	Filter...	Filter...	Filter...	Filter...
> Devices (0)					
> VPC Infrastructure (0)					
> Clusters (0)					
> Cloud Foundry Apps (0)					
> Cloud Foundry Services (0)					
> Services (1)					
Watson Studio-0o	Default	Dallas	Watson Studio	Provisioned	—
> Storage (1)					
> Network (0)					
> Cloud Foundry Enterprise Environments (0)					
> Functions Namespaces (0)					
> Apps (0)					
> Developer Tools (0)					

Then click **Launch in IBM Cloud Pak for Data**

IBM Cloud

Search resources and offerings...

Q

Catalog

Docs

Support

Manage

Resource list /

watson-studio

Active

Add tags

Details

Actions...

Manage

Plan

Watson Studio in Cloud Pak for Data

Watson Studio is one of the core services in Cloud Pak for Data as a Service. Build, deploy and manage AI models, and optimize decisions on IBM Cloud Pak for Data.

Launch in IBM Cloud Pak for Data

IBM Watson Studio in Cloud Pak for Data

IBM Cloud Pak for Data Unifying platform

IBM Cloud Base cloud infrastructure

IBM Watson Studio is part of IBM Cloud Pak for Data and serves as the data science capability of the data fabric architecture.

Step 3: Creating a Project

Now you have to Create a project.

Click on **Create a project**:

IBM Cloud Pak for Data

Welcome Malika!

Watson Studio • Watson Machine Learning

Learn by example

Solve a specific business problem with a comprehensive tutorial in a sample project.

Take a guided tutorial

Start working

Create a project, add your team, and start preparing, analyzing, or modelling data.

Create a project

Add features

Create services with the tools, data, or other capabilities that you need.

Create a service

On the Create a project page, click **Create an empty project**

Back

Create a project

Choose whether to create an empty project or to preload your project with data and analytical assets. Add collaborators and data, and then choose the right tools to accomplish your goals. Add services as necessary.

Create an empty project

Add the data you want to prepare, analyze, or model. Choose tools based on how you want to work: write code, create a flow on a graphical canvas, or automatically build models.

NEW AutoAI experiment tool: Fully automated approach to building a classification or re...

USE TO

Prepare and visualize data

Analyze data in notebooks

Train models

Create a project from a sample or file

Get started fast by loading existing assets. Choose a project file from your system, or choose a curated sample project.

USE TO

Learn by example

Build on existing work

Run tutorials

Provide a **Project Name** and **Description**, as shown below:

New project

Define project details


Name

Python Basics for Data Science Project

Description

This is the Python Basics for Data Science Project.

Choose project options

☐ Restrict who can be a collaborator 

Project will include integration with [Cloud Object Storage](#) for storing project assets.

Define storage

① Select storage service

Add

Add an object storage instance and then return to this page and click Refresh.

② Refresh

Cancel

Create

You must also create storage for the project.

Click **Add**

New project

Define project details


Name

Project name

Description

Project description

Choose project options

☐ Restrict who can be a collaborator 

Project will include integration with [Cloud Object Storage](#) for storing project assets.

Define storage

① Select storage service

Add

Add an object storage instance and then return to this page and click Refresh.

② Refresh

Cancel

Create

On the Cloud Object Storage page, scroll down and then click **Create**.

Cloud Object Storage

Existing

New

Cloud Object Storage

IBM Cloud Object Storage is a highly scalable cloud storage service, designed for high durability, resiliency and security. Store, manage and access your data via our self-service portal and RESTful APIs. Connect applications directly to Cloud Object Storage use other IBM Cloud Services with your data.

Features

Storage for the IBM Cloud
IBM Cloud Object Storage provides unstructured data storage for cloud applications. Libraries and SDKs support a common set of S3 API functions for connecting new applications to scalable cloud storage and integrating your data into other services on the IBM Cloud Platform as well as IBM Watson services. IBM Cloud Object Storage is available with Regional, Cross Region and single site resiliency options worldwide.

Built-in Aspera high-speed transfer
With IBM Cloud Object Storage Aspera high-speed data transfer, you can improve data transfer performance by quickly transferring data over long distances, and under various network conditions. It is natively integrated into Cloud Object Storage and there is no additional cost for uploading data.

Storage Classes and Archive Policy
Choose storage classes based on your usage patterns for active, less-active, and cold workloads with Standard, Vault, and Cold Vault respectively. Use Flex class for dynamic data access with usage patterns that are hard to predict. For rarely used data that requires long-term retention, simply set an Archive policy with our existing storage-class tiers allowing you to reduce costs even further with our lowest priced Archive storage.

Access and Key Management
IBM Identity and Access Management (IAM) policies allow for granular access control at the bucket level using role-based policies. Key Protect support allows customers to have their own managed encryption keys for higher level data security.

Pricing Plan: Monthly Process shown above reflect the: [United States](#)

PLAN	FEATURES	PRICING
<div><div></div><div>Lite</div></div>	<div><div>1 COS Service Instance</div><div>Storage up to 25 GB/mo.</div><div>Up to 20,000 GET requests/mo.</div><div>Up to 2,000 PUT requests/mo.</div><div>Up to Data Retrieval 10 GB/mo.</div><div>Up to 5GB Public Outbound</div><div>Applies to aggregate total across all storage bucket classes</div></div>	Free
The Lite service plan for Cloud Object Storage includes Regional and Cross Regional resiliency, flexible data classes, and built in security.		

Standard

There is no minimum fee, so you pay only for what you use.

Expand each section to view details

Cancel

Create



In the Confirm Creation box, click **Confirm**.



Confirm Creation

Plan

Lite ▼

Resource group

Default ▼

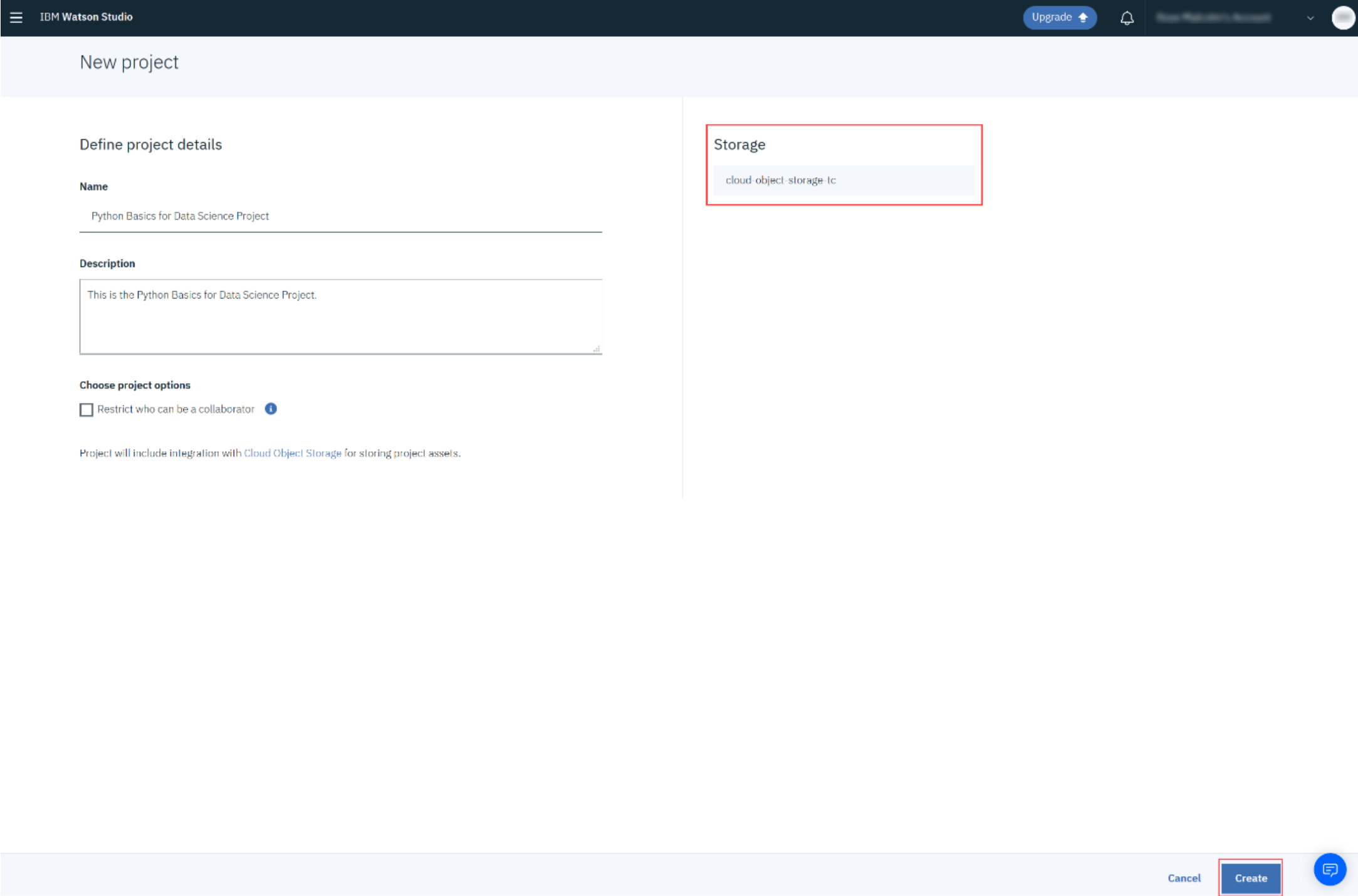
Service name

cloud-object-storage-ai

Cancel

Confirm

On the New project page, note that the storage has been added, and then click **Create**.

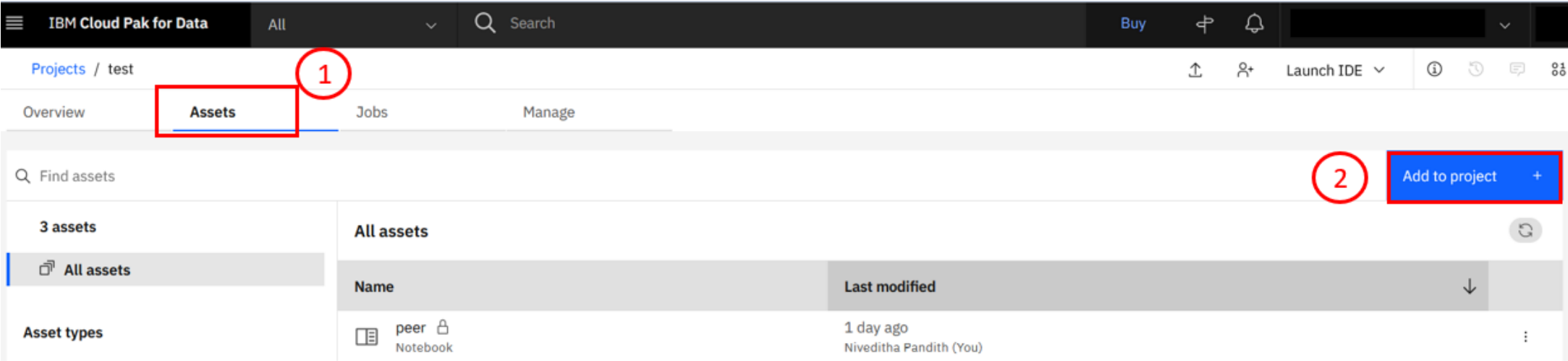


After creating the project continue with Step 3.

Step 3: Adding a Notebook to the Project:

You need to add a Notebook to your project.

Click on **Assets** and then click on **Add to project**.



In the list of asset types, click **Jupyter Notebook Editor**:

Add to project

Select the tool to create an operational or configuration asset.

Tool type

All types

Automatic builders

Graphical canvas

Code editors

Other

Find tools by name or purpose

Code editors

**Jupyter notebook editor**
Create a notebook in which you run Python, R, or Scala code to prepare, visualize, and analyze data, or build a model.

Note: Select the default Python as selected language.

On the New Notebook page, enter a name for the notebook, and then click From URL.

Copy this link: https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-DA0101EN-SkillsNetwork/labs/FinalModule_Coursera/House_Sales_in_King_Count_USA.ipynb

Paste it into the **Notebook URL** box, and then click **Create Notebook**.

IBM Cloud Pak for Data

Upgrade

Lakshmi Holla's Account

LH

New notebook

Blank

From file

From URL

Name

Final Assignment

Description (optional)

Type your description here

Select runtime

Default Python 3.7 XS (2 vCPU 8 GB RAM)

The selected runtime has 2 vCPU and 8 GB RAM. It consumes 1 capacity unit per hour. [Learn more](#) about capacity unit hours and Watson Studio pricing plans.

Notebook URL

https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeve

Cancel

Create

You will see this Notebook:

