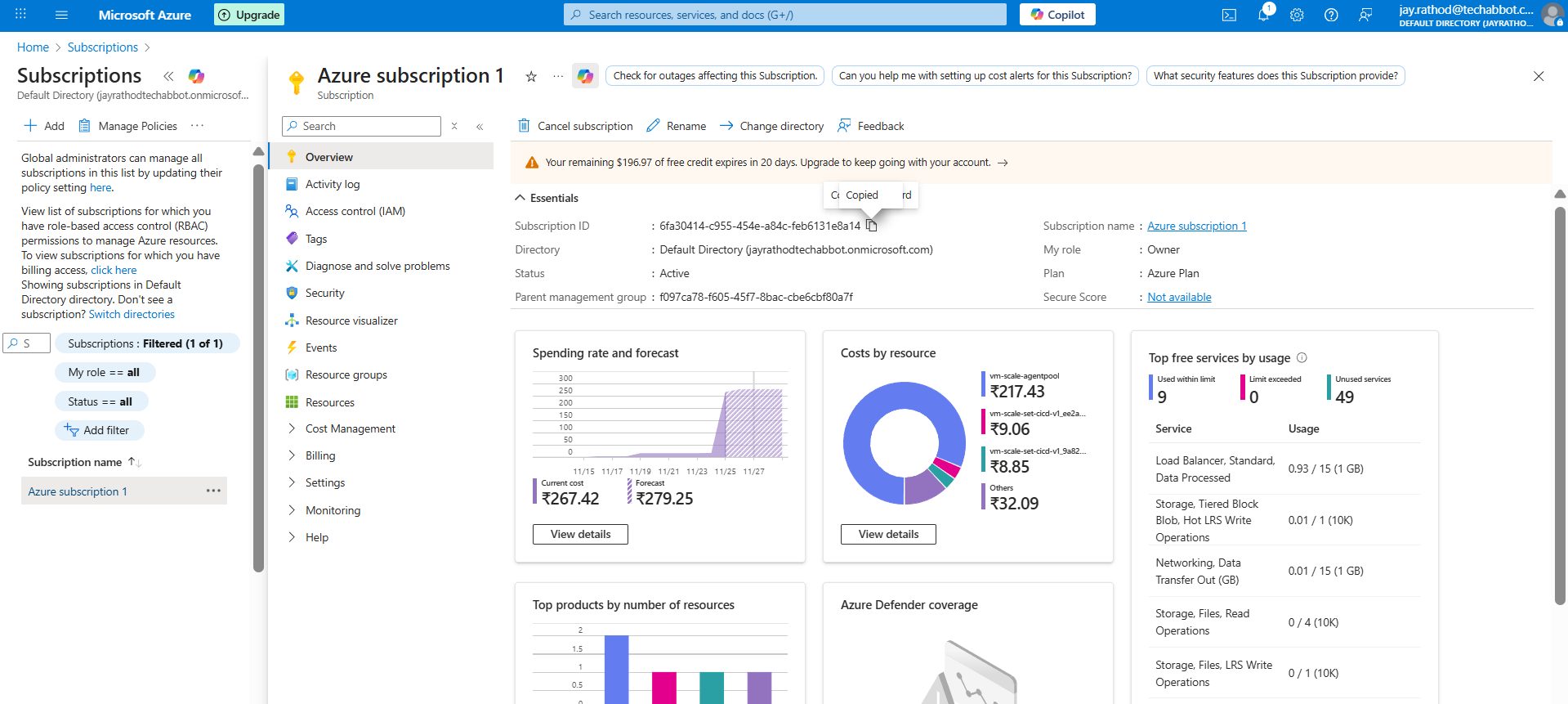
# **[Azure ML : Python, MLOps &CI/CD](https://www.youtube.com/playlist?list=PL-kVqysGX514KnkdYkSJWqYdJyRWGt899)**

Git : <https://github.com/DeepKnowledge1/azure-ml>

Get subscription id



azure-identity

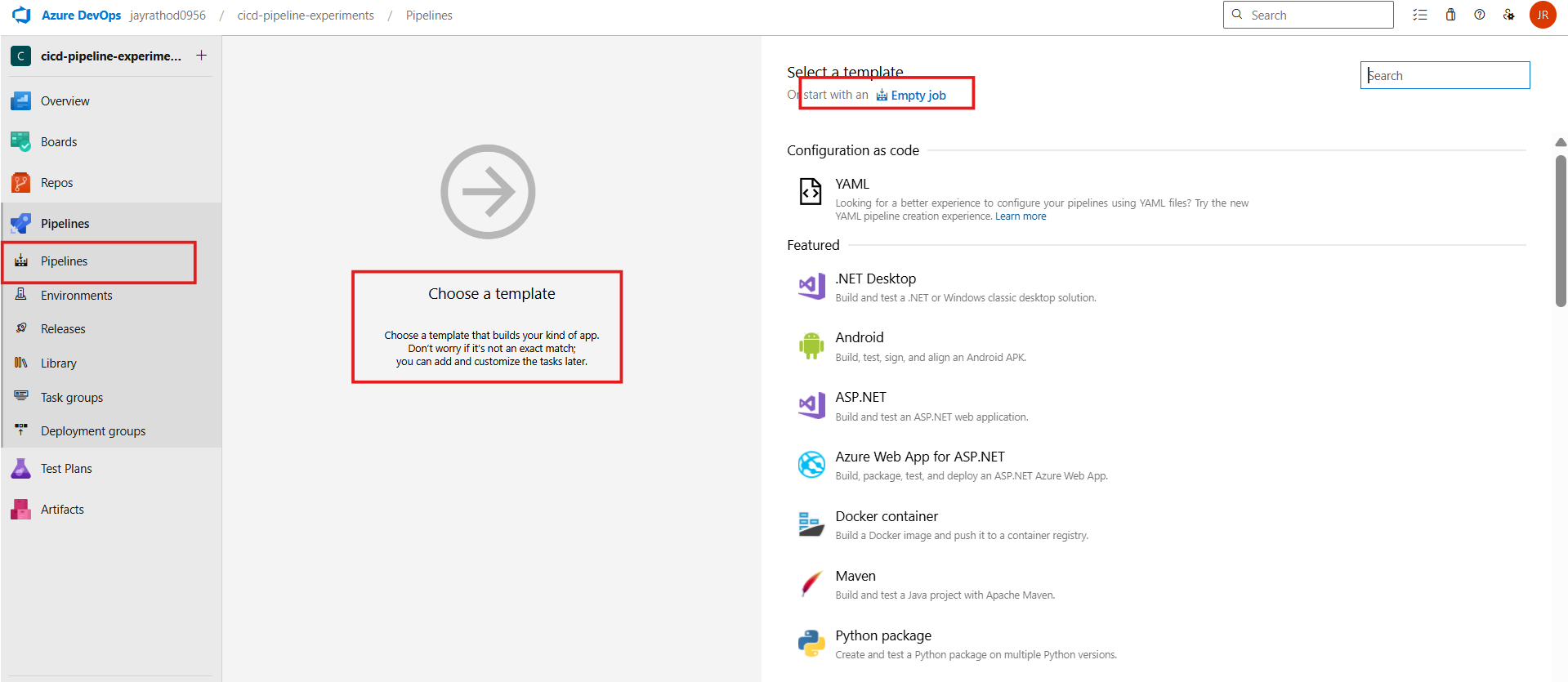
azure-mgmt-resource

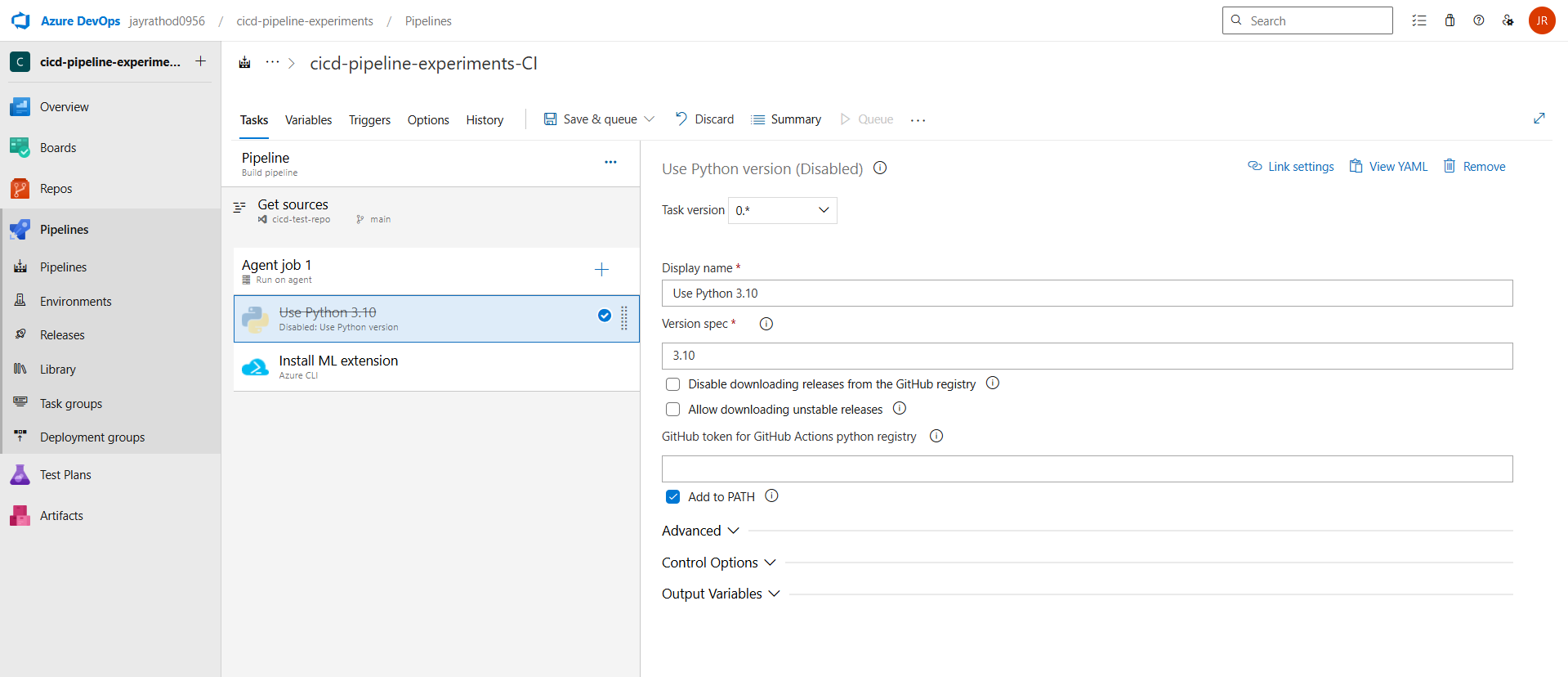
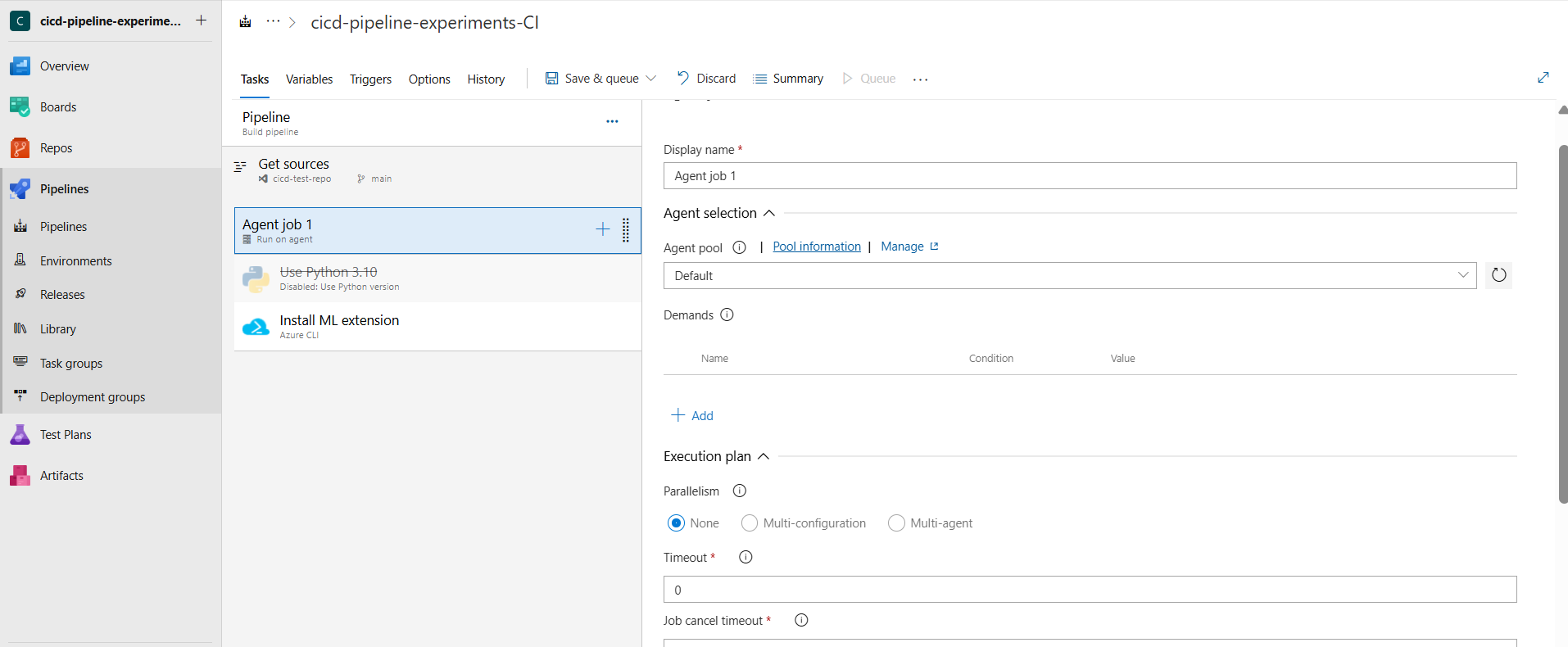
argparse

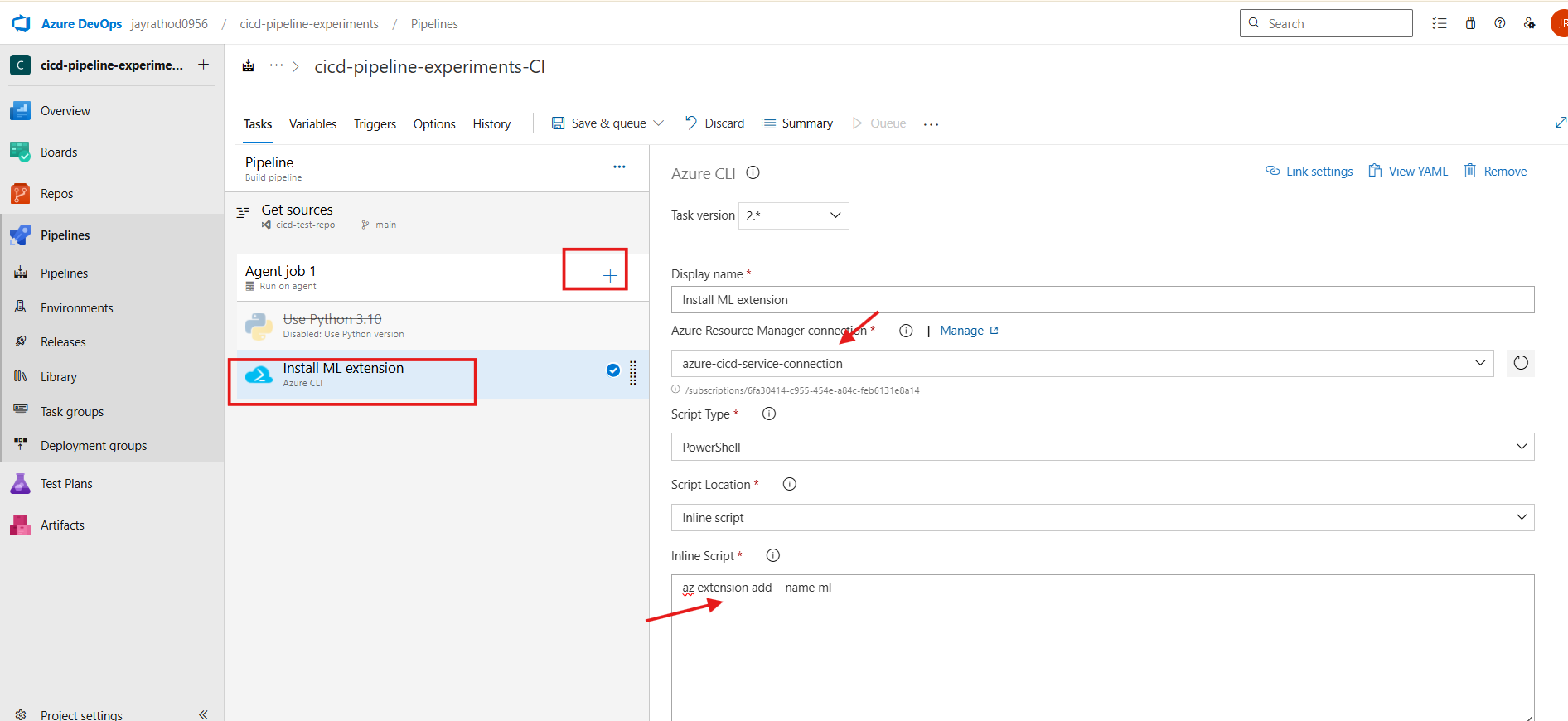
dependency for python SDK

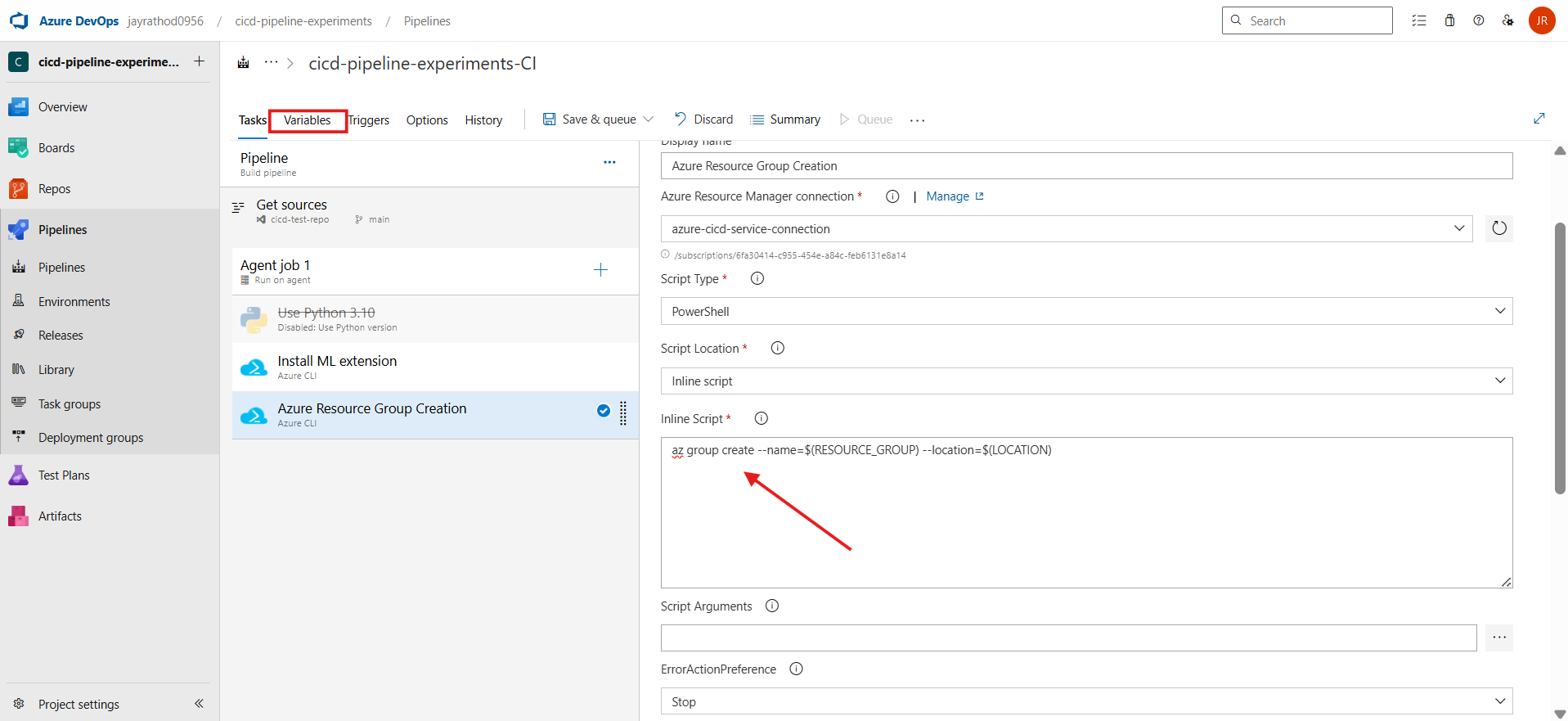
# Create Resource group with pipeline

Create a service connection > Azure Resource Manager



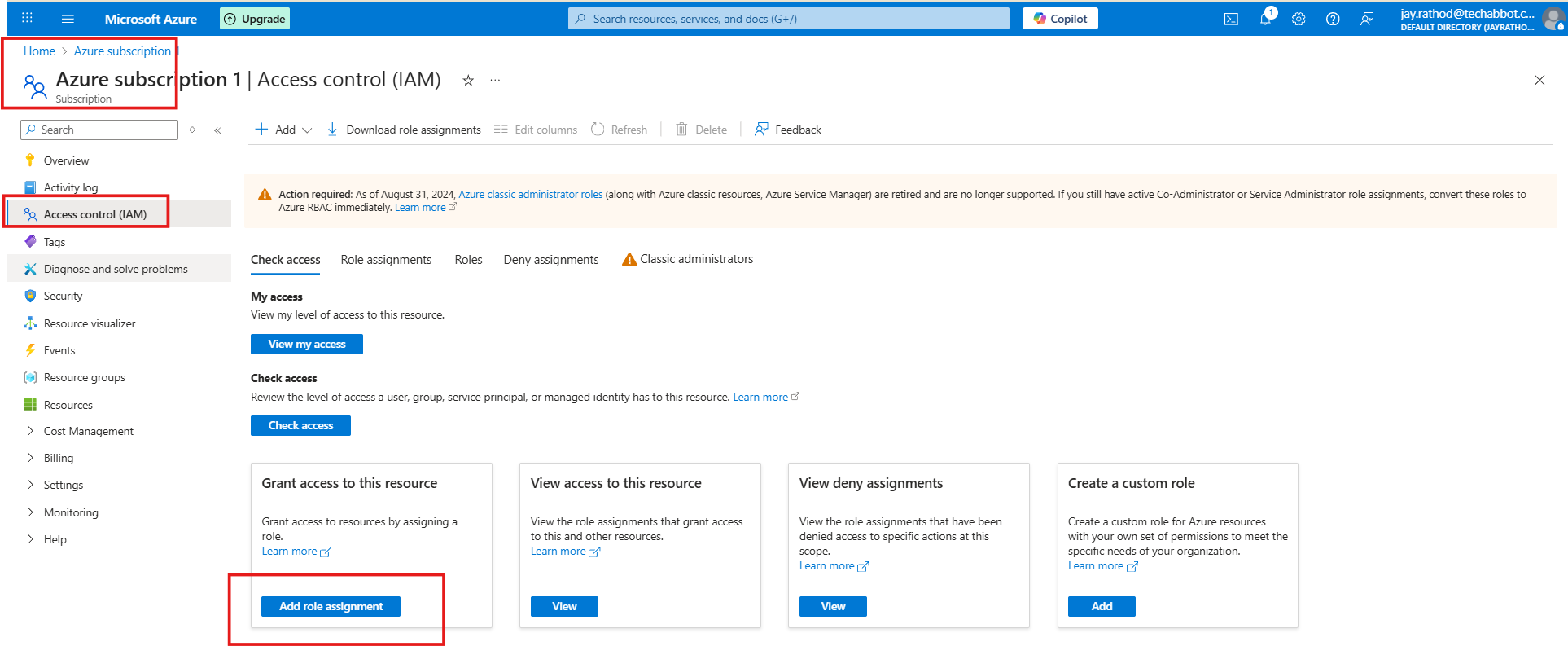


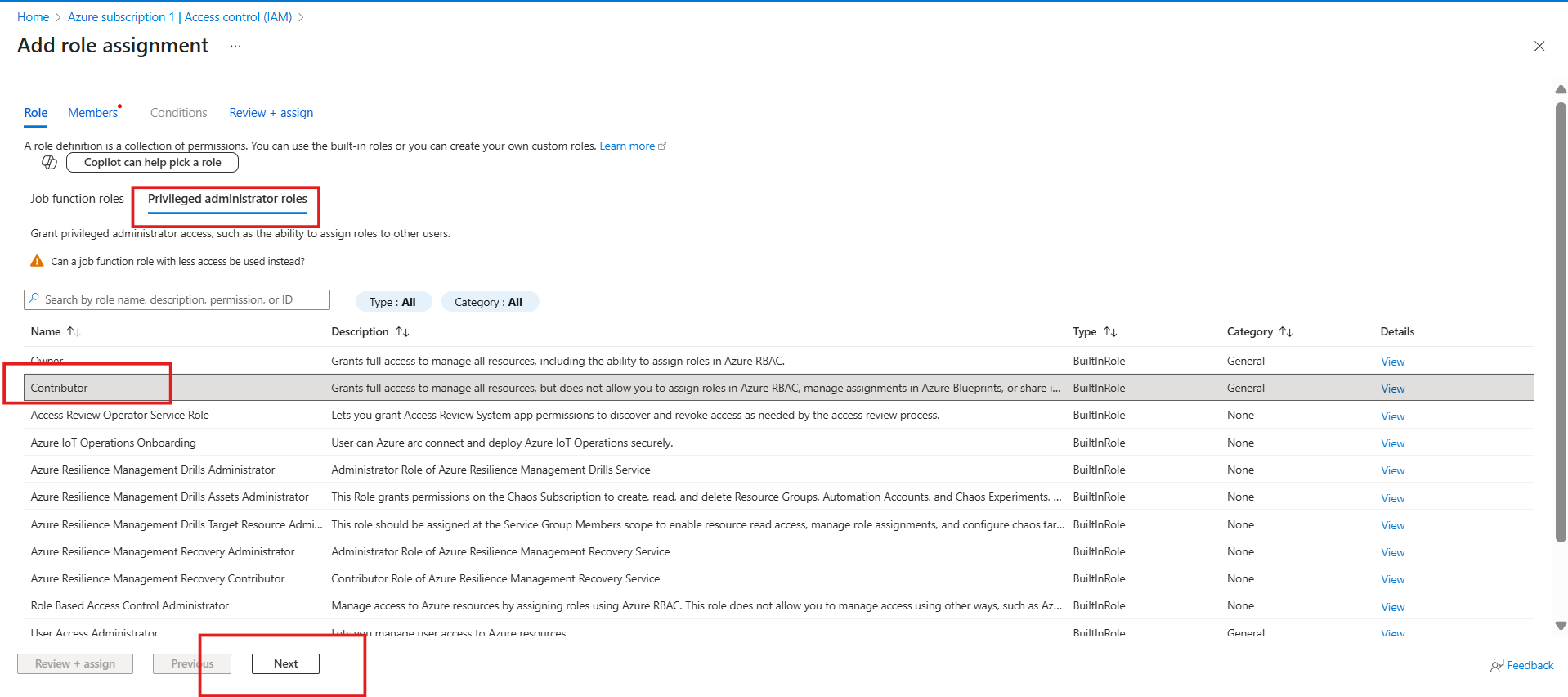


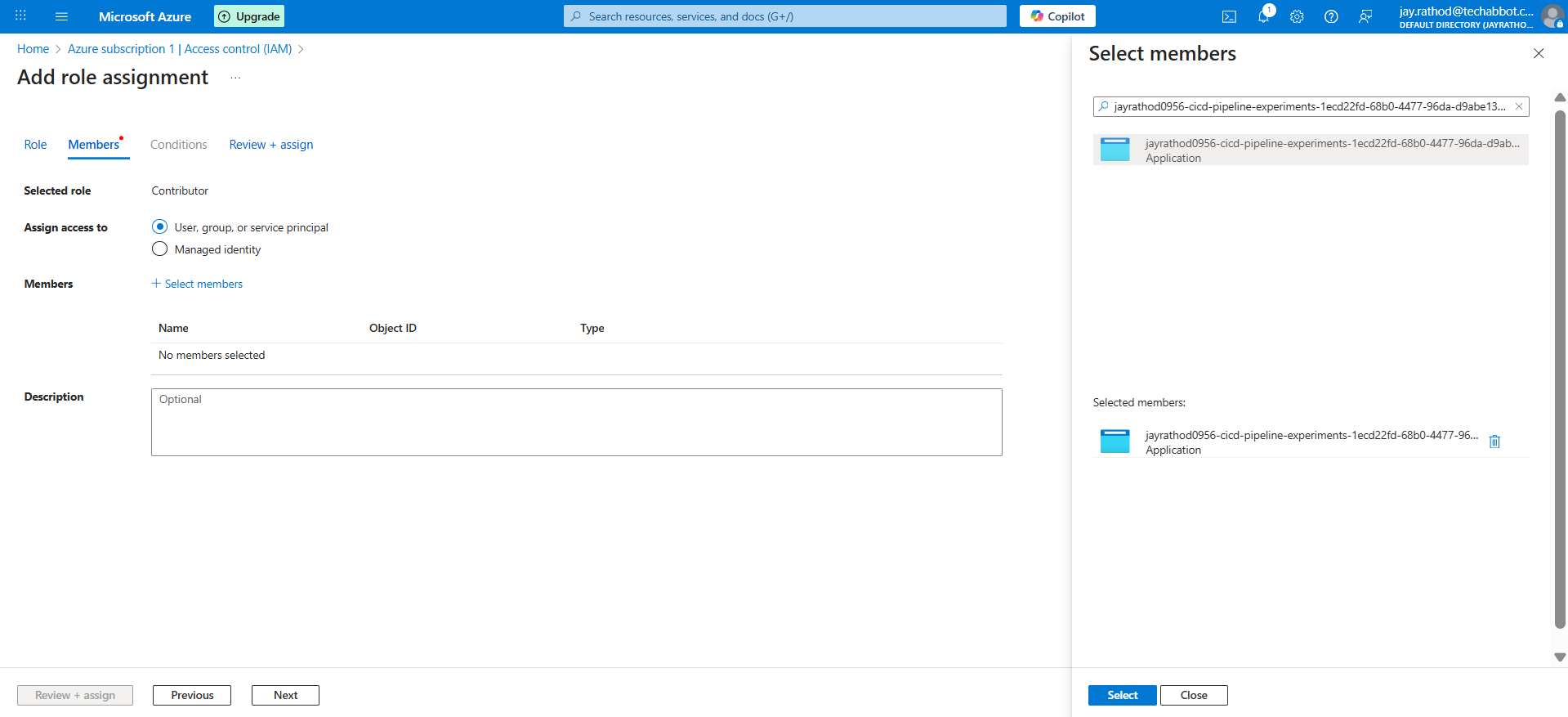


In case of access issue for creating resource group

Add access at the subscription level

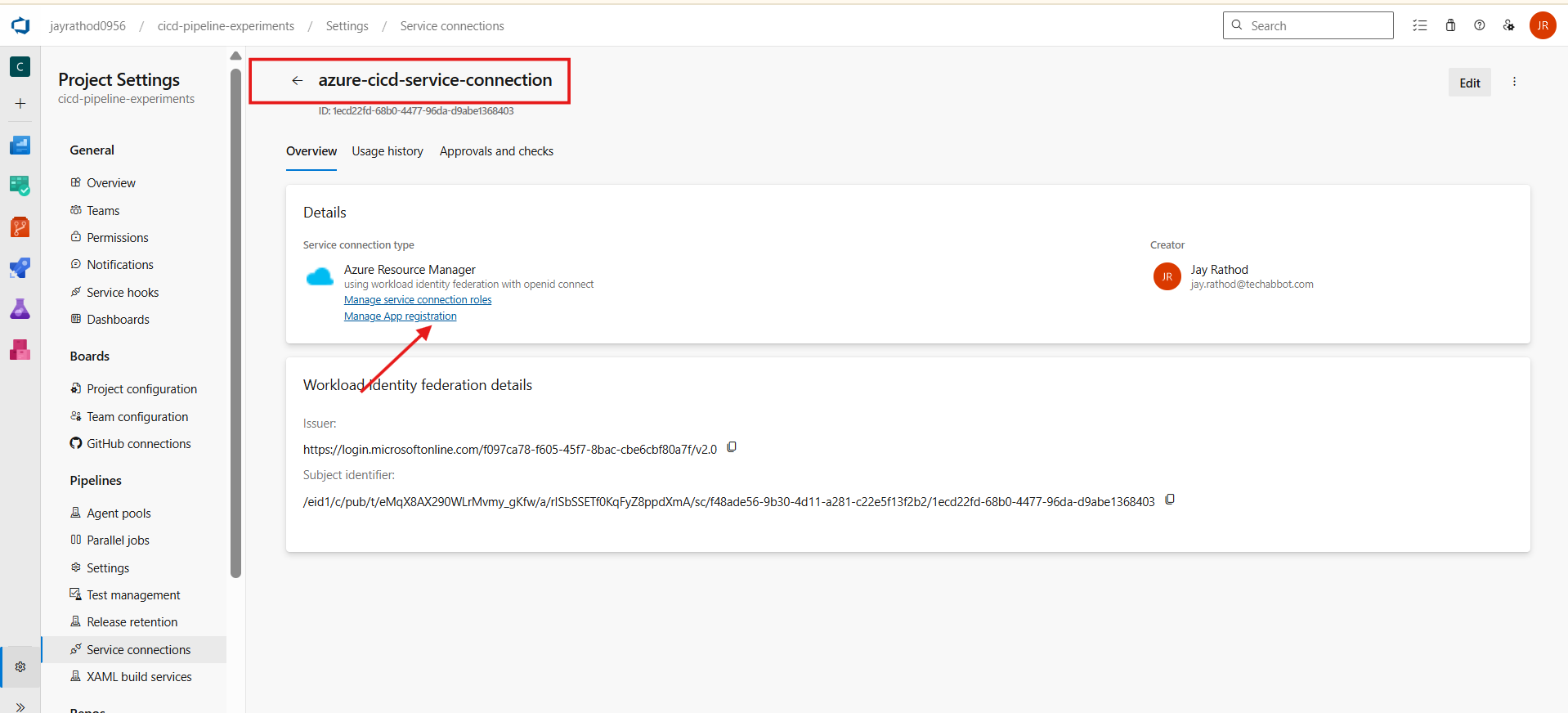


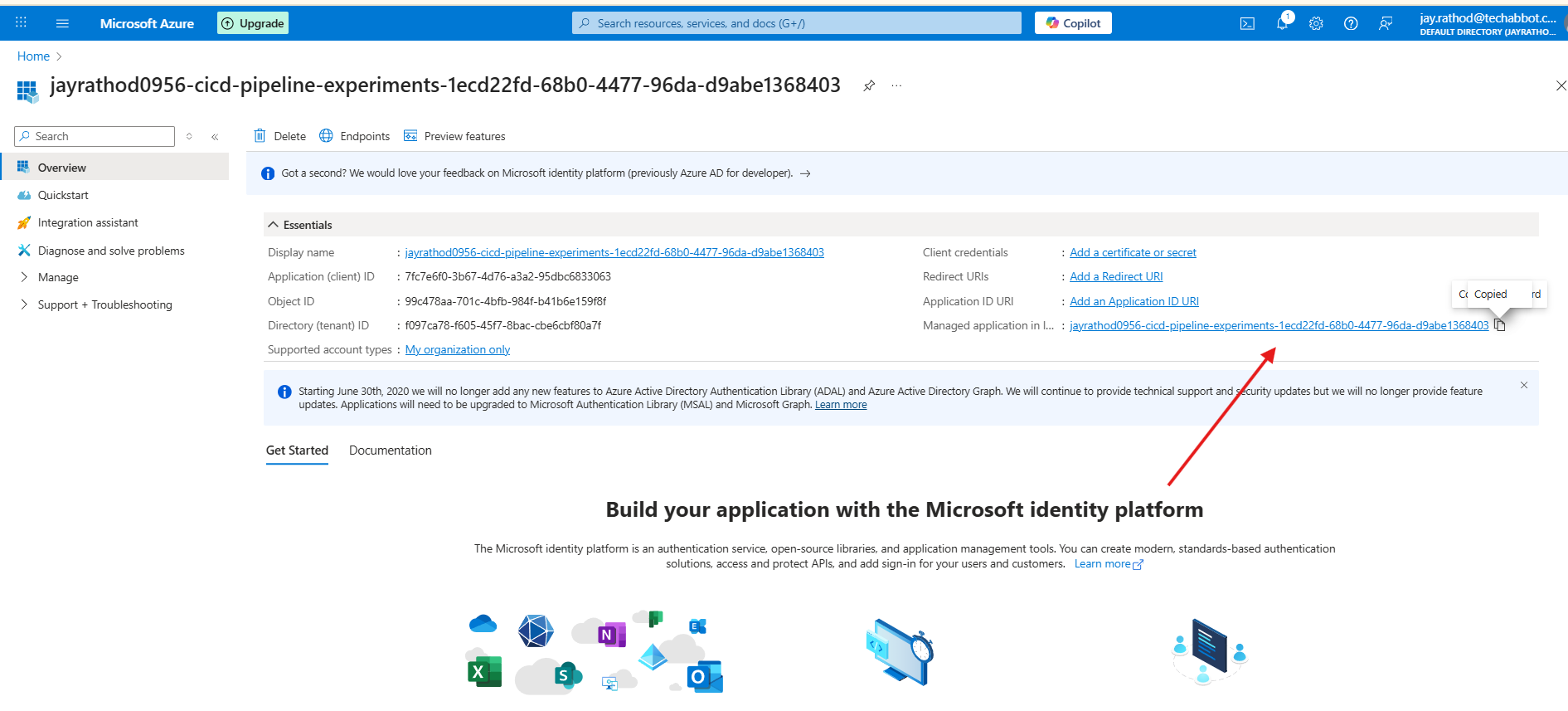




For getting select member follow these steps :

At connection level





Copy this name and add in the IAM access

# Create ML Workspace pipeline

Powershell local command

az ml workspace create `

>> --name "jay-ai-workspace" `

>> --resource-group "rg-27-ml-cicd" `

>> --location "eastus"

## To get storage key for creating container

$STORAGE\_ACCOUNT\_KEY = az storage account keys list `

--resource-group $RESOURCE\_GROUP `

--account-name $STORAGE\_NAME `

--query "[0].value" `

-o tsv

az storage container create `

--account-name $STORAGE\_NAME `

--name $CONTAINER\_NAME `

--account-key $STORAGE\_ACCOUNT\_KEY `

--public-access off

account-name = storage account name

## To upload blob from local

az storage blob upload `

--account-name jaystorageaccount2711 `

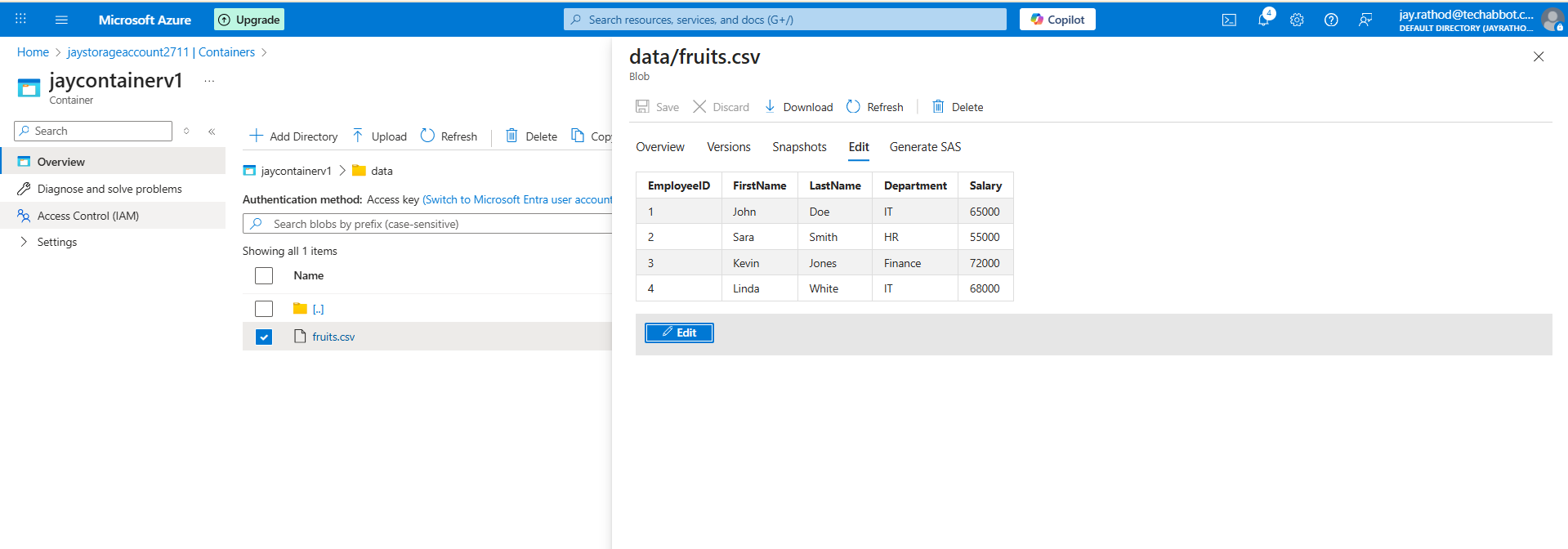
--container-name jaycontainerv1 `

--file ./data/data.csv `

--name data/fruits.csv `

--account-key <key>

To verify



From pipeline

az storage blob upload `

--account-name jaystorageaccount2711 `

--container-name jaycontainerv1 `

--file ./folder/data.csv ` (from repo)

--name data/fruits1.csv `

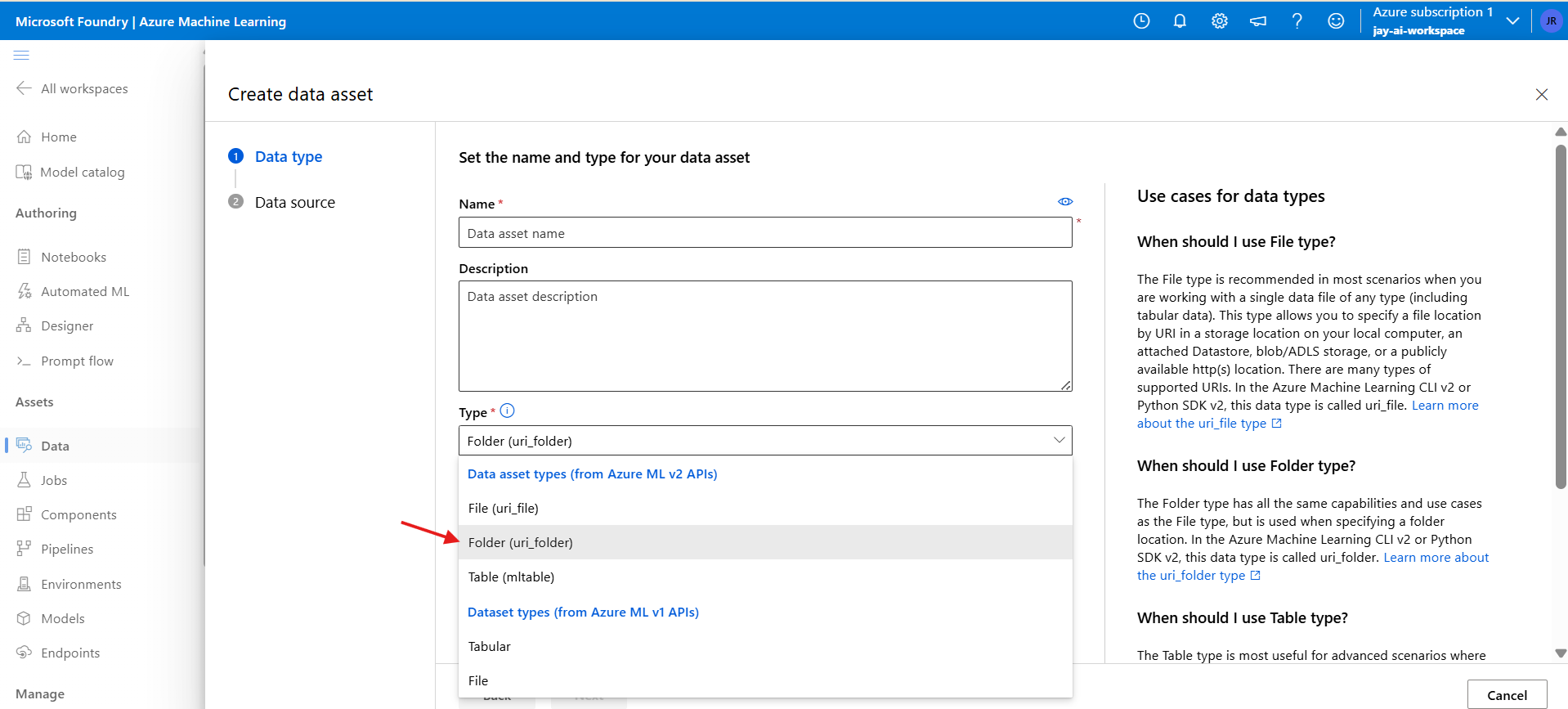
--account-key <>

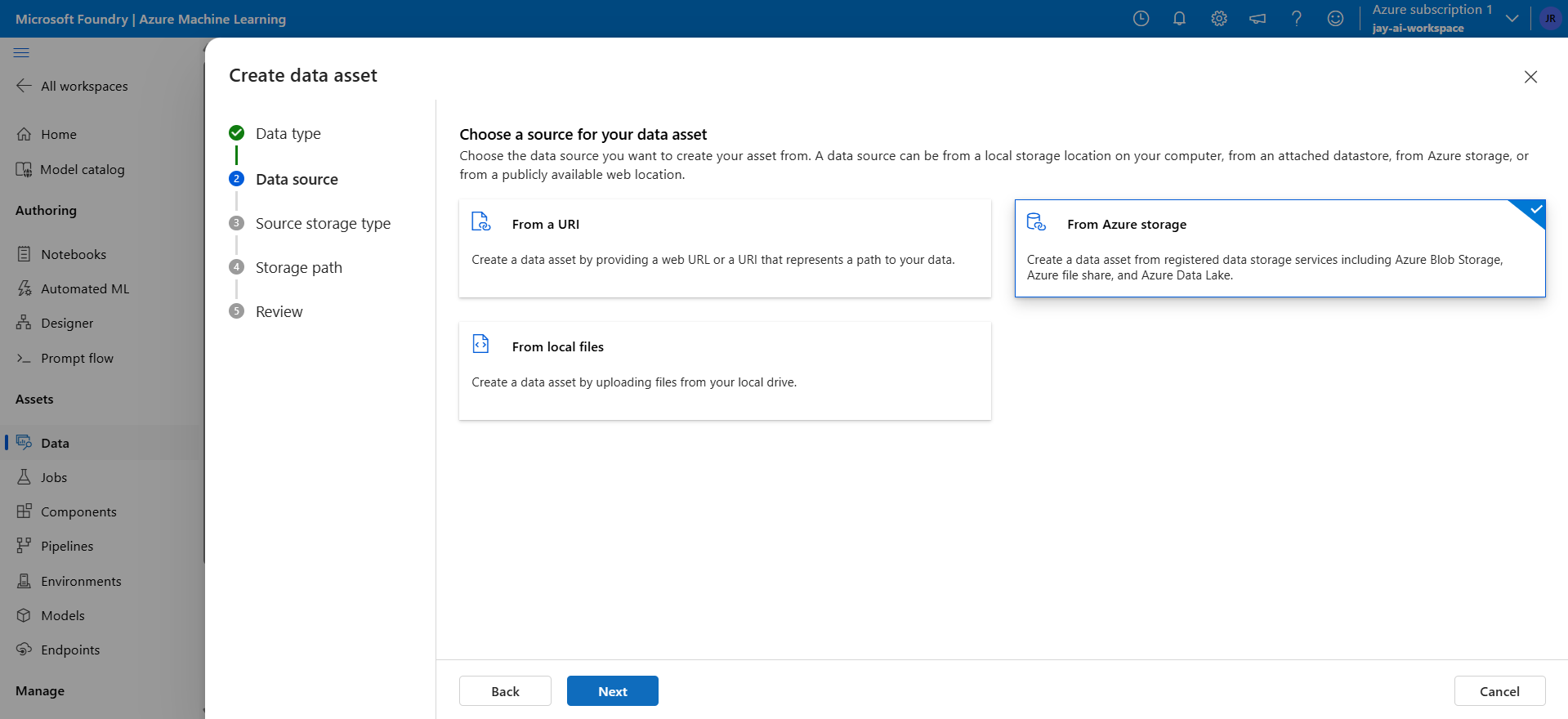
--overwrite true

# Create a data store in the Microsoft Foundry

Blob > container > folder > .csv

We need to upload folder

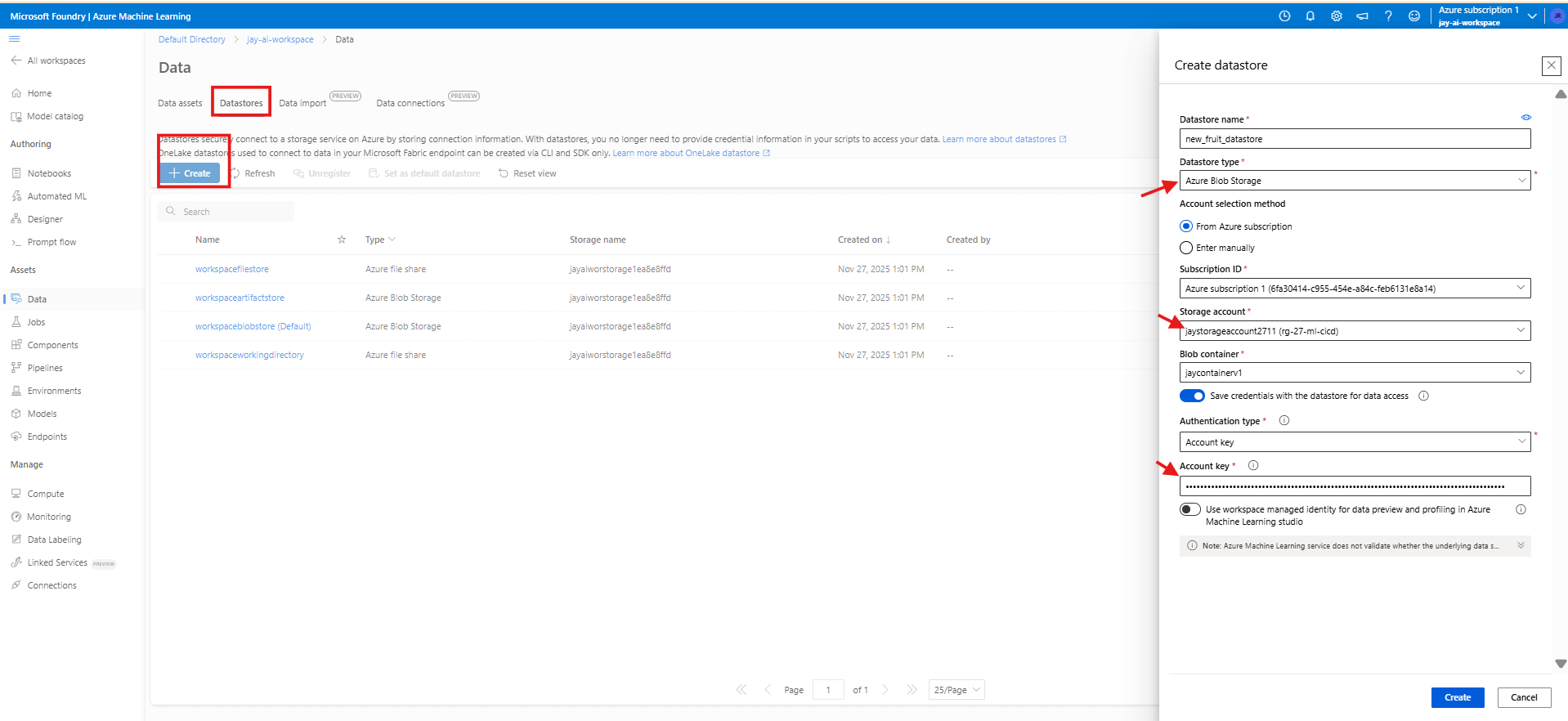




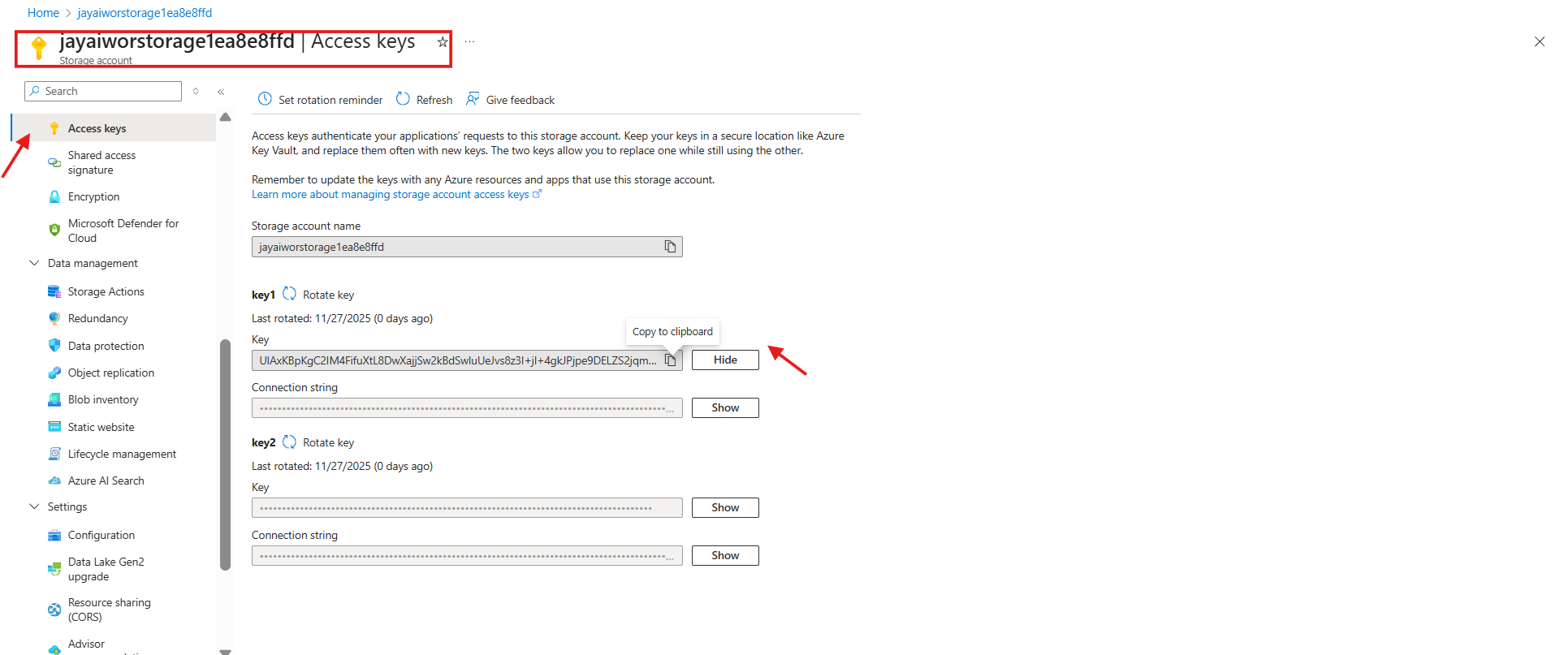
Verify



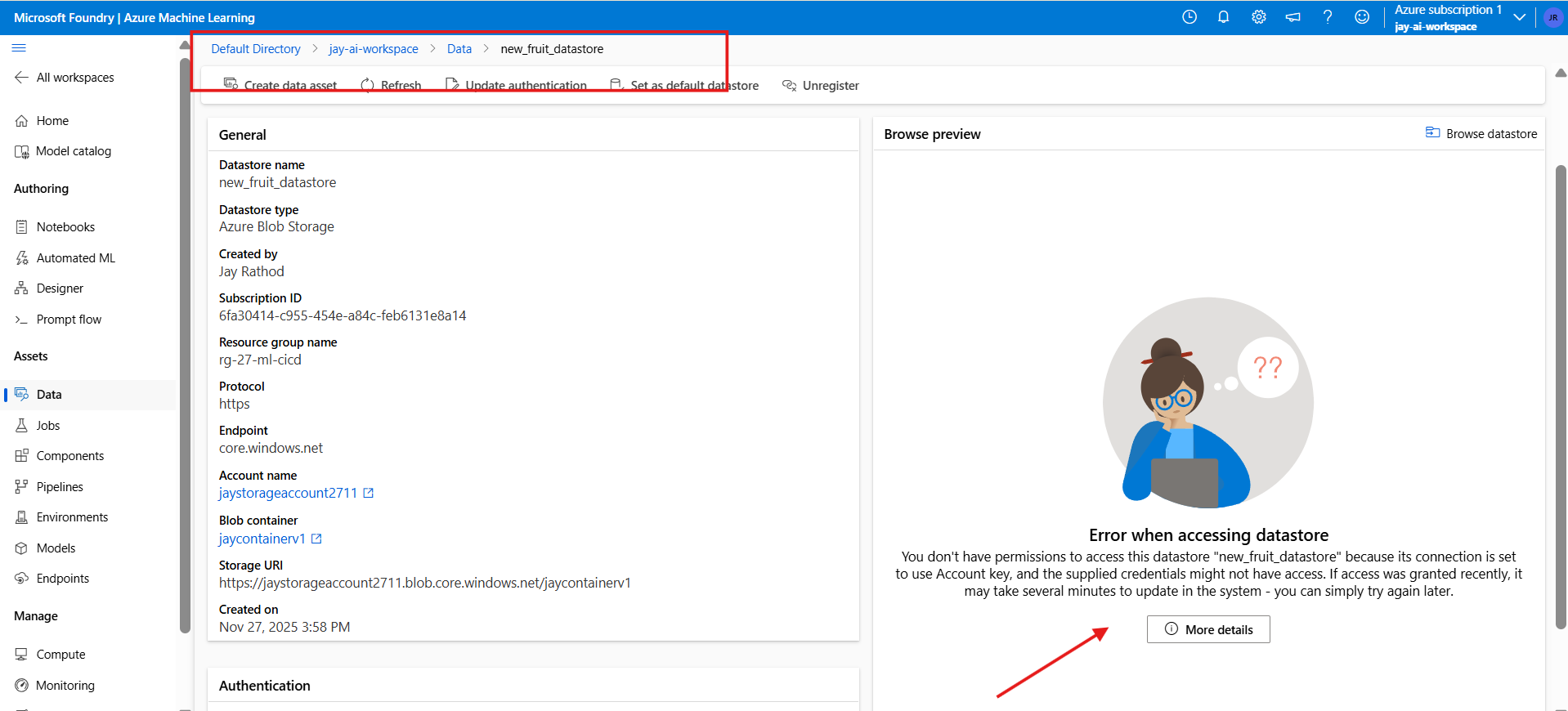
Other way

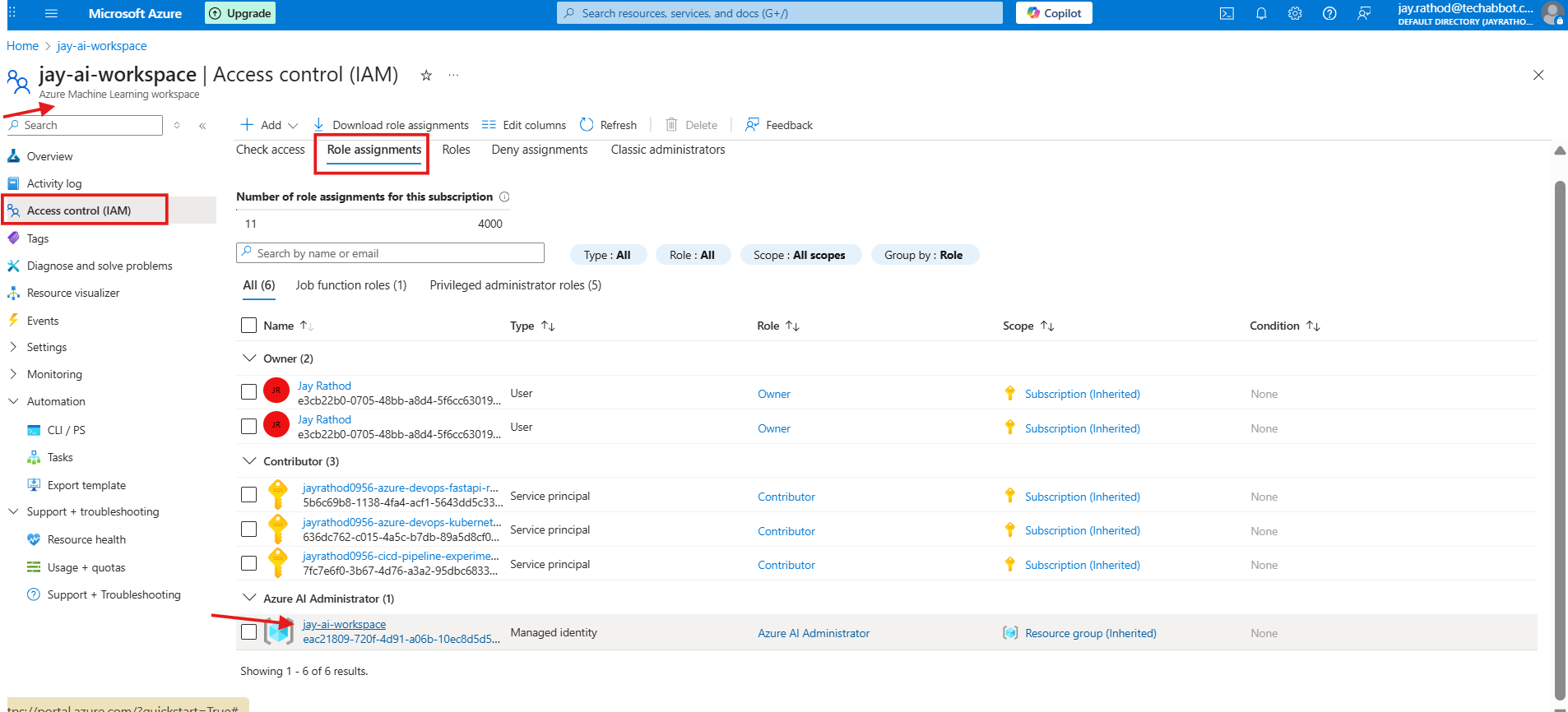


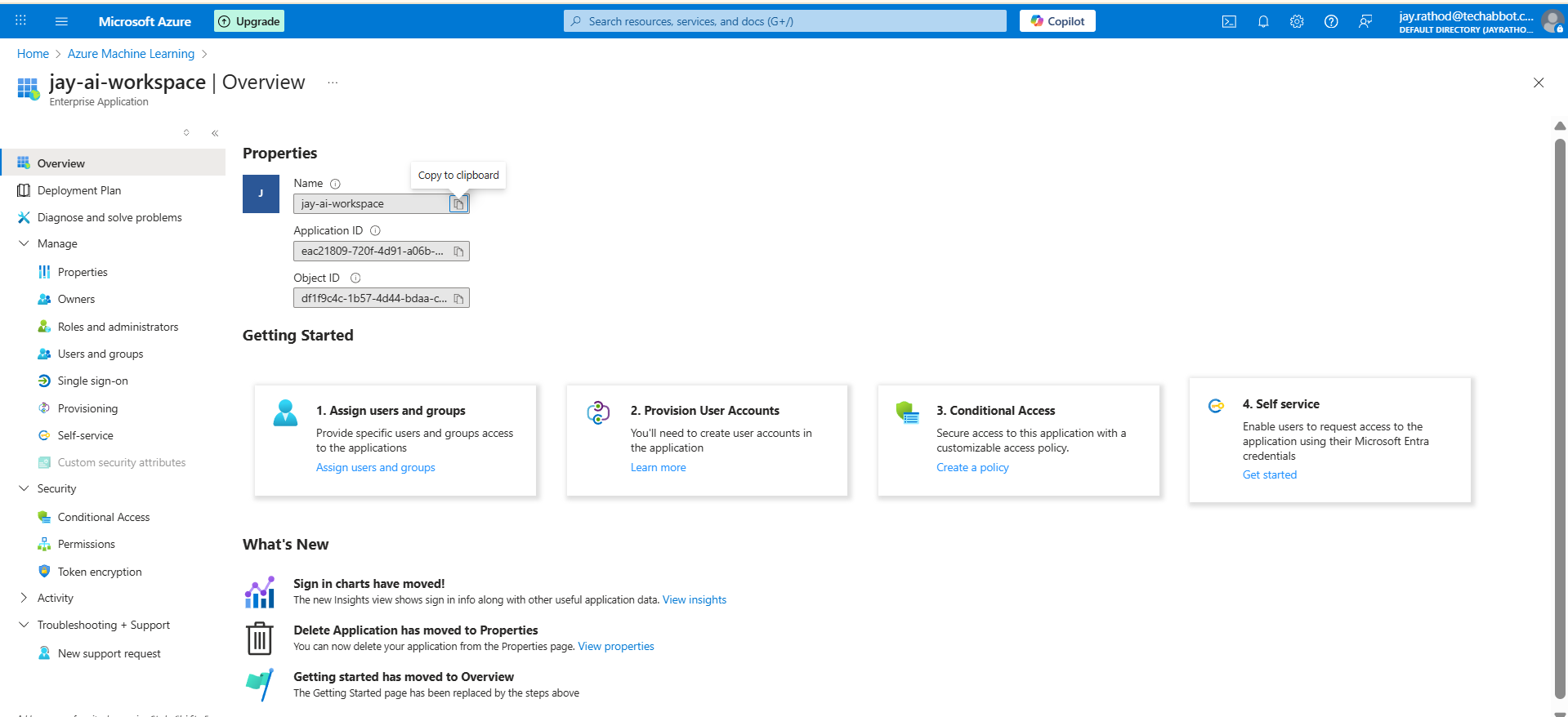
Access key can be fetch from



# Issue Not able to access from storage account

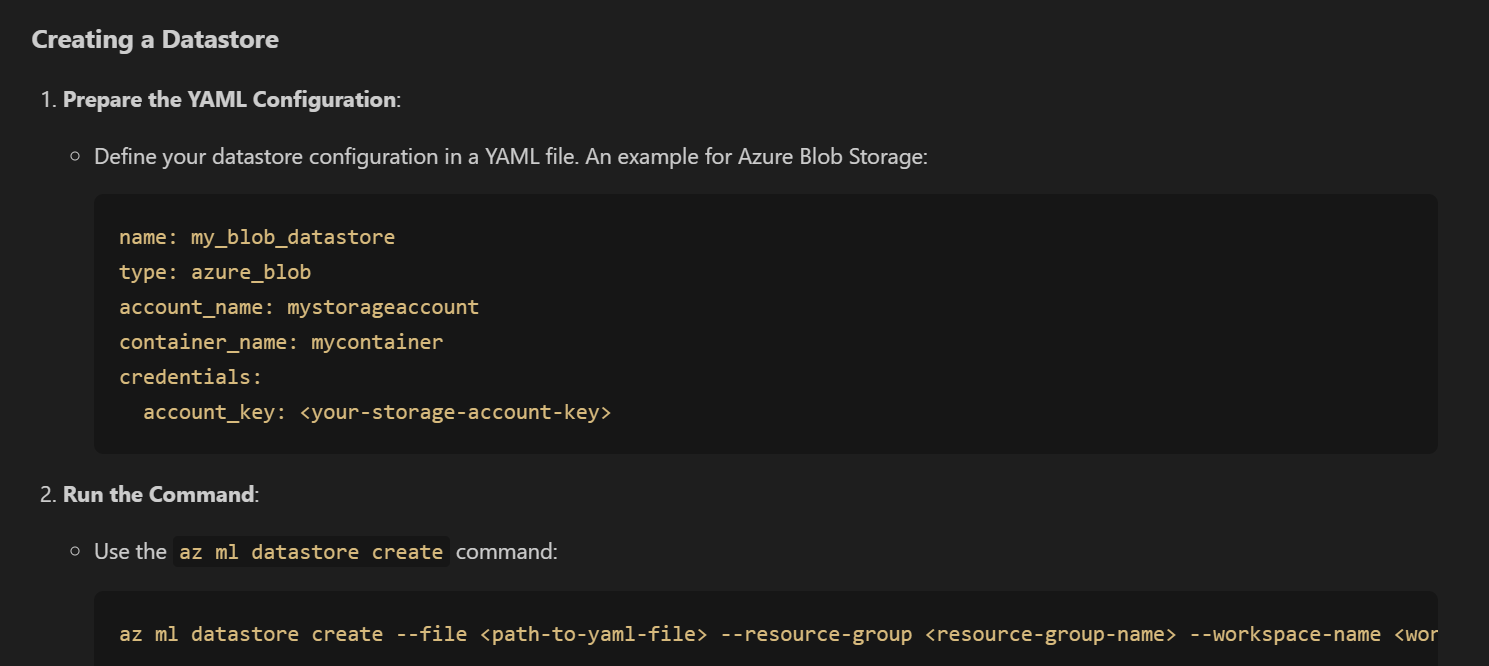




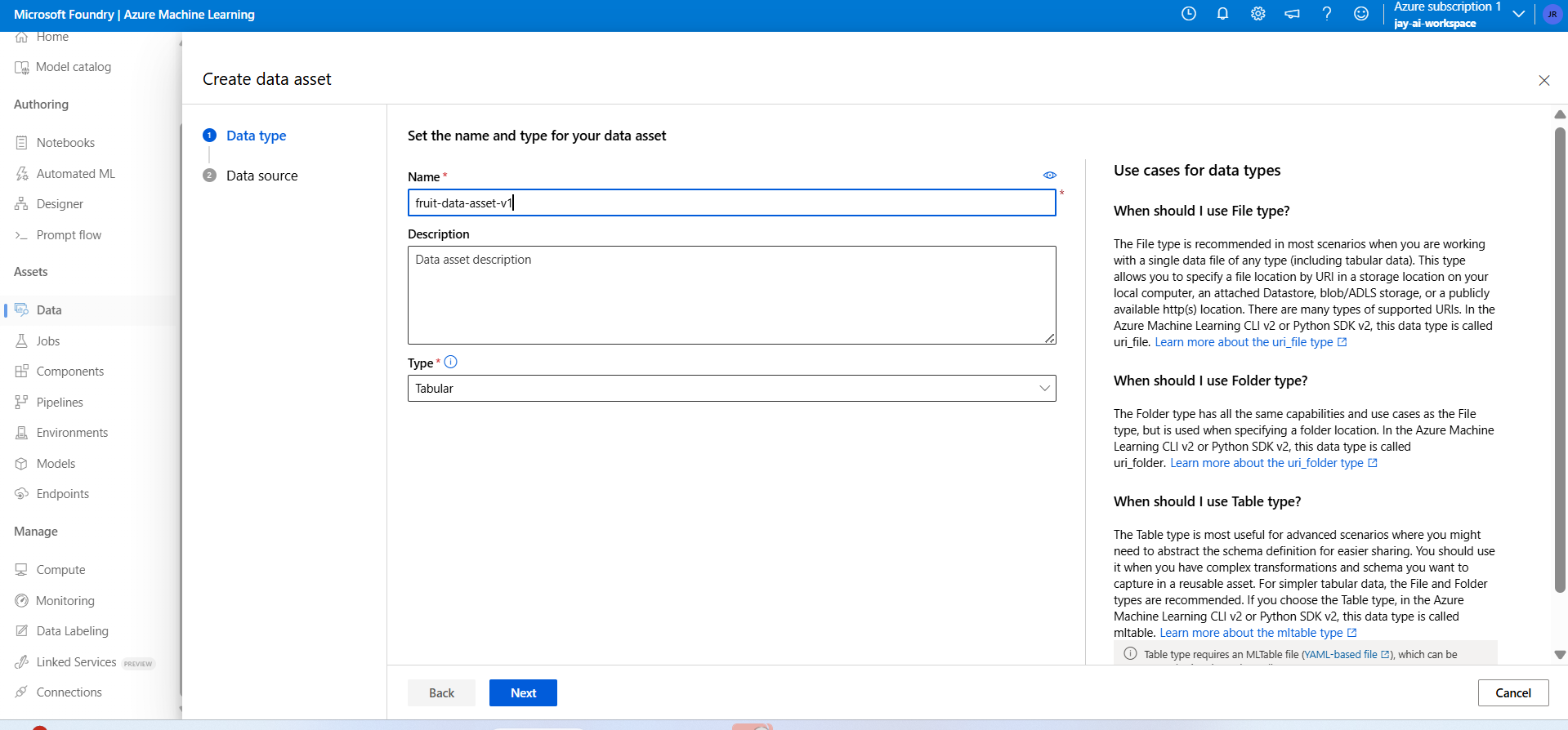


Add inside the access of storage account

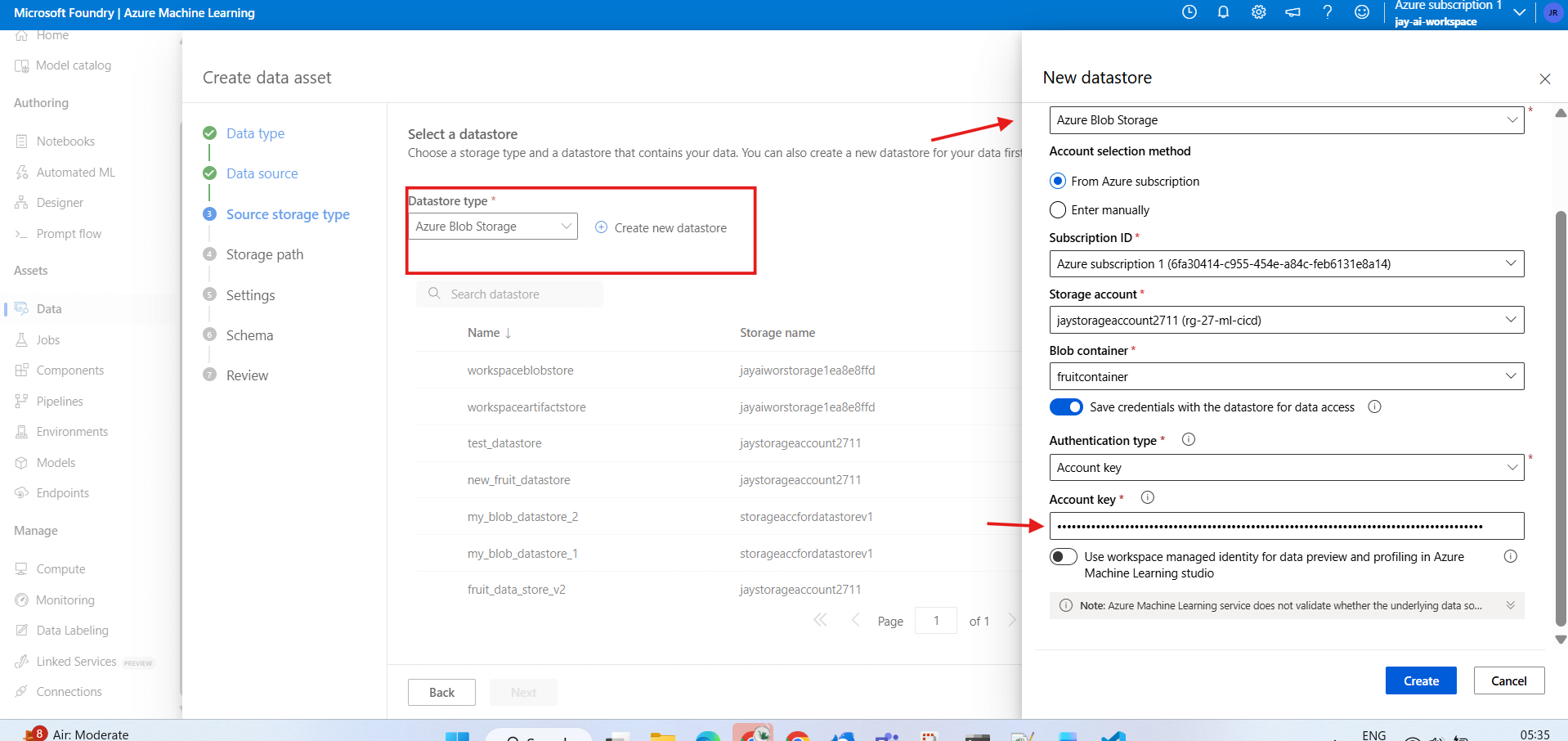
# Creating datastore with CLI

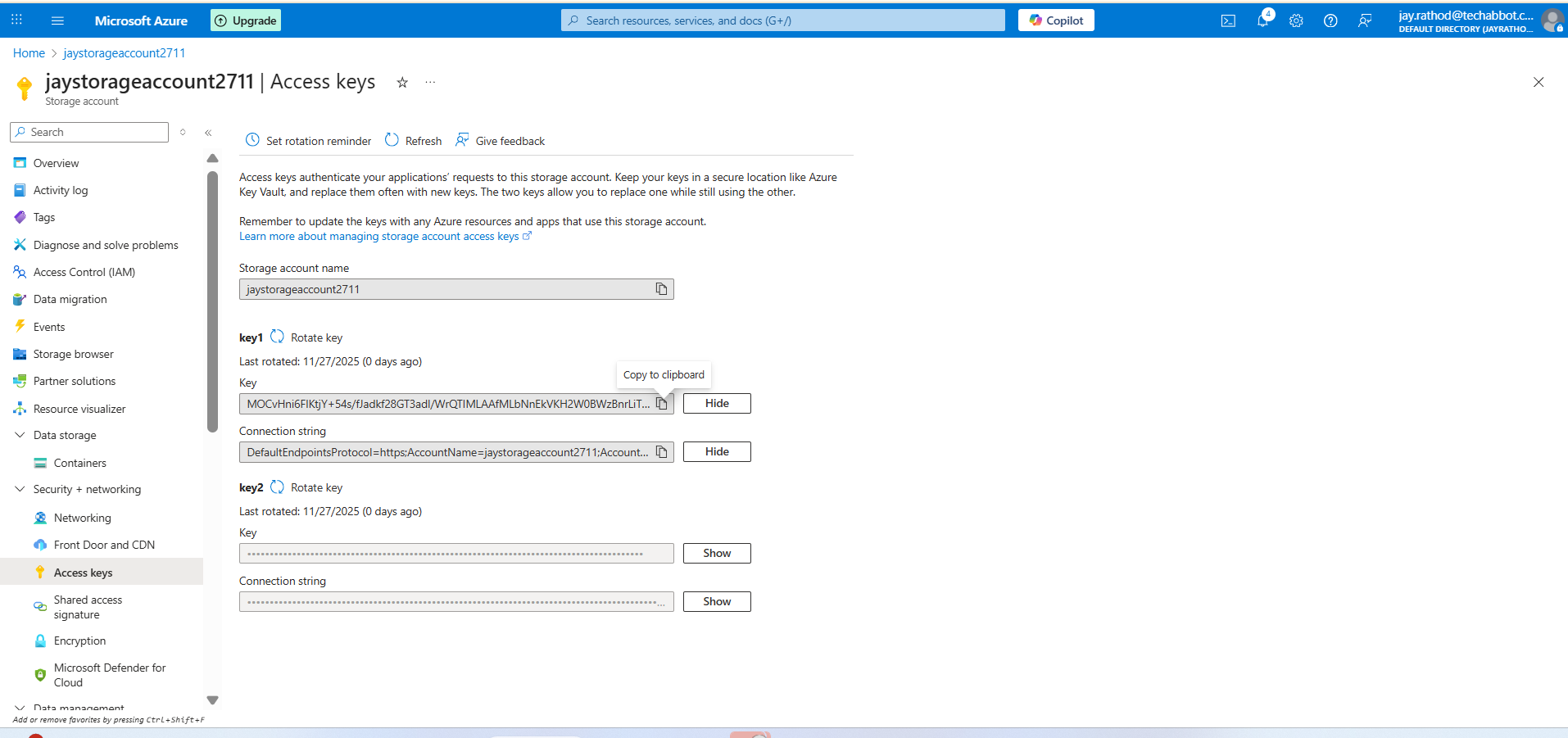


# Create a data asset in the Microsoft foundry



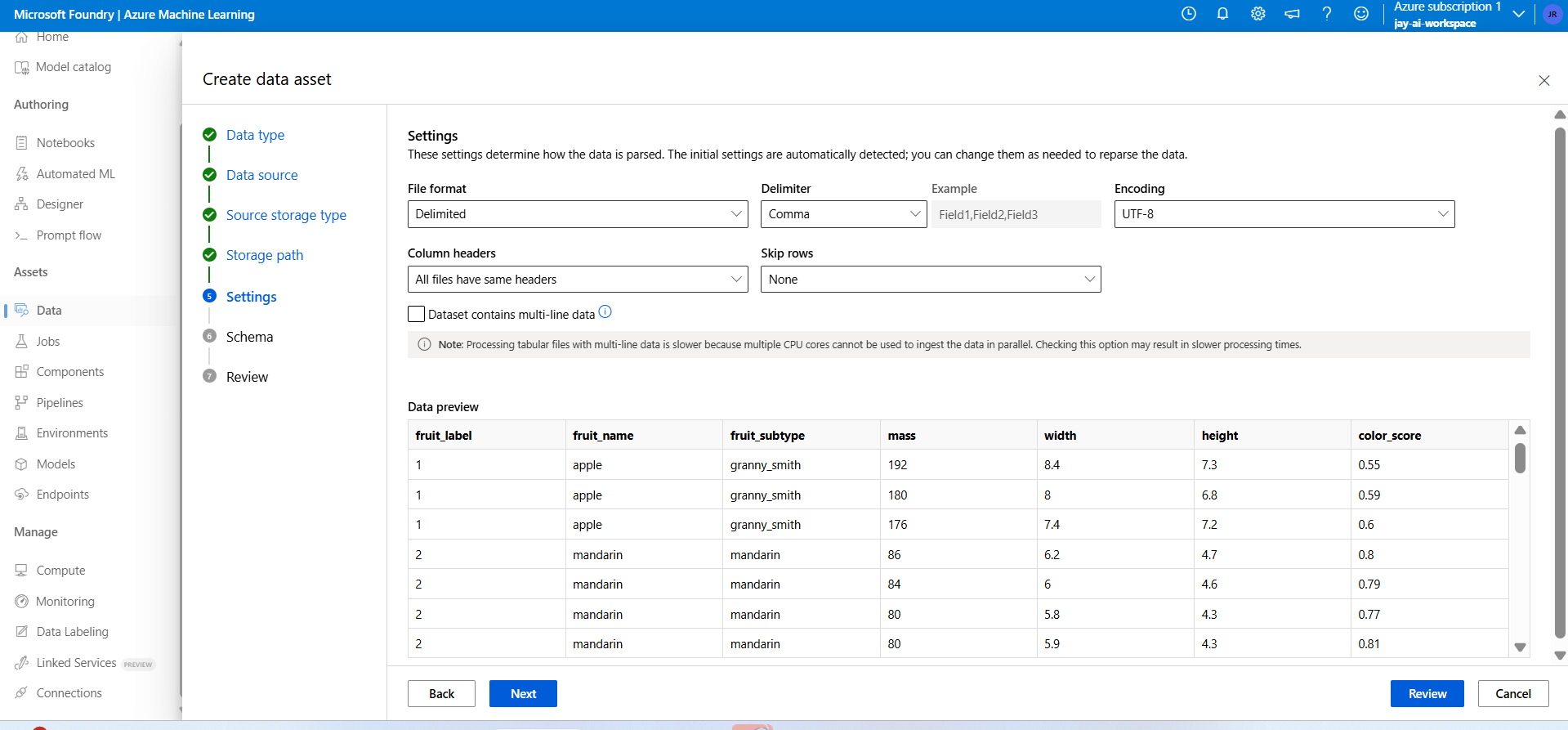
Azure storage + Crete new datastore



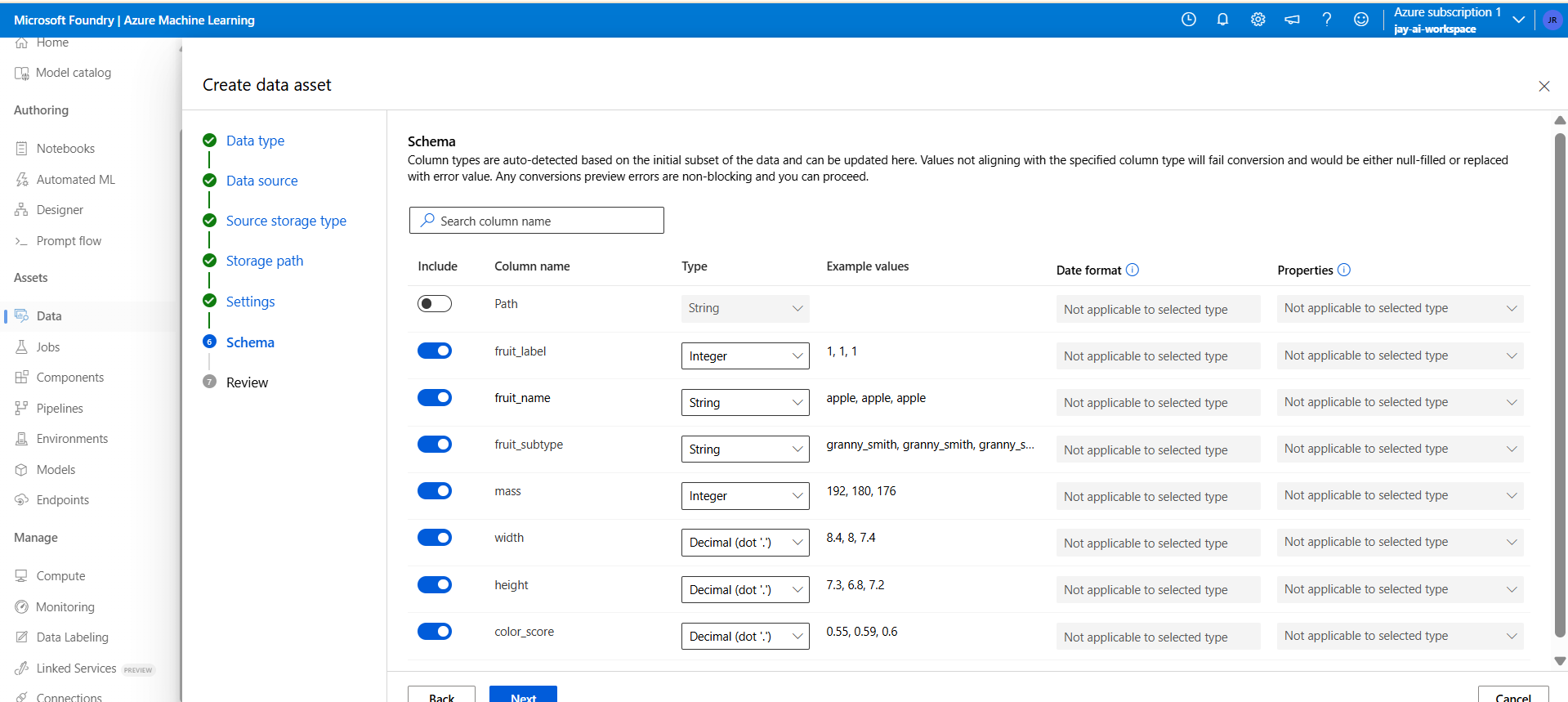


Copy storage key for connection

Selection created data store > select .csv > Next

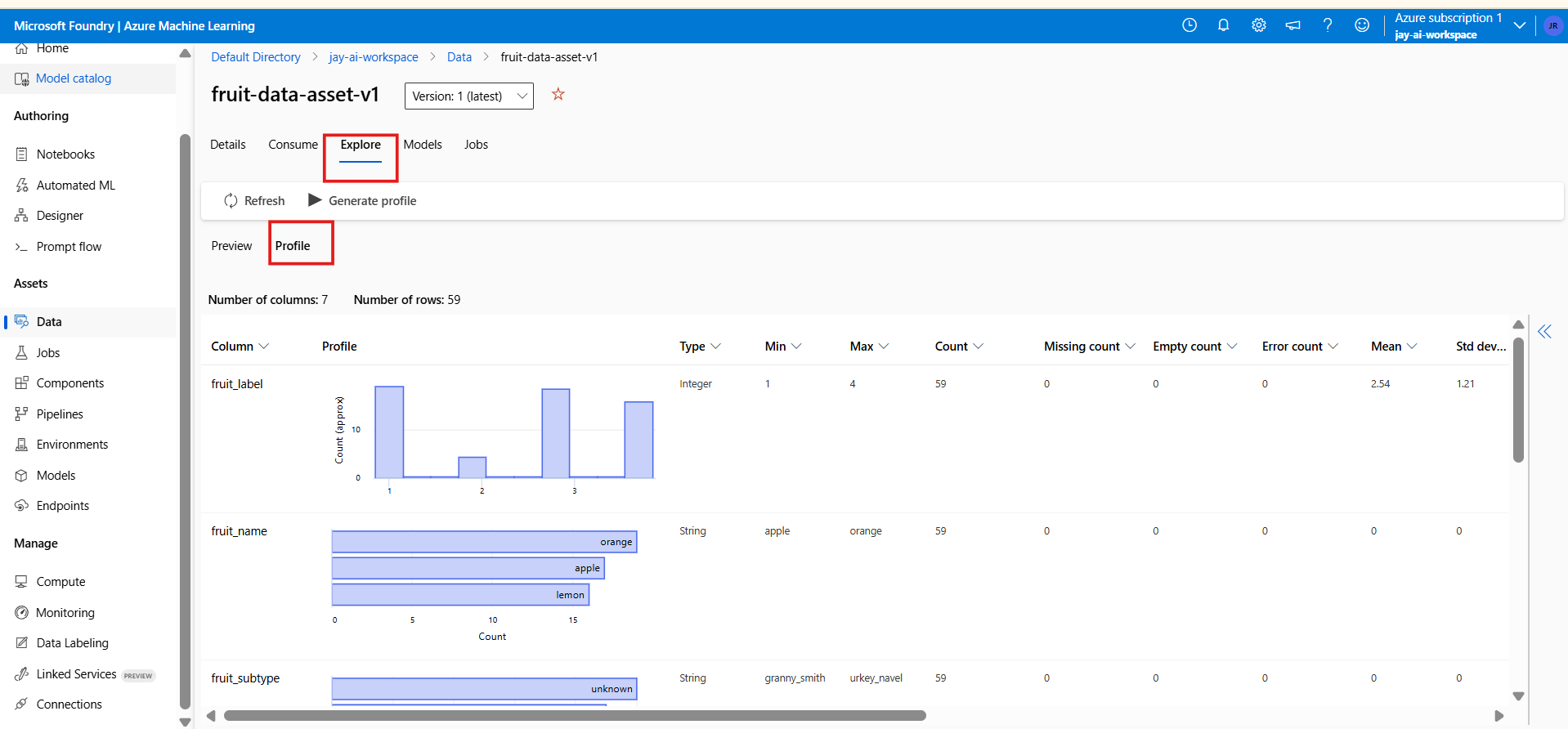


Review > Edit schema

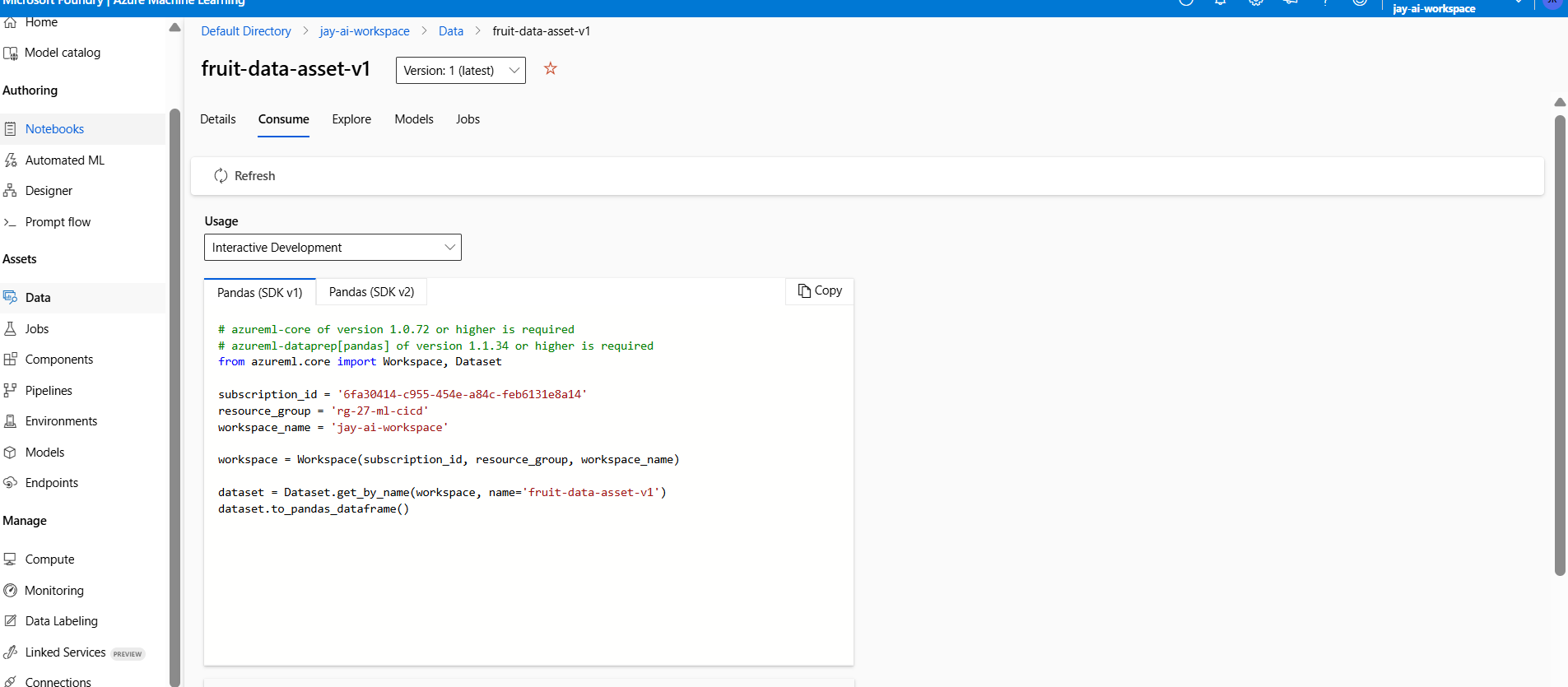


Create

Verify and analysis



From consume , we can get code



## Data Asset Using CLI from data stores

* To update the version of existing store

Data stores | <any one> | Browse

File name -> three dots -> copy path

azureml://subscriptions/6fa30414-c955-454e-a84c-feb6131e8a14/resourcegroups/rg-27-ml-cicd/workspaces/jay-ai-workspace/datastores/fruit\_data\_strore\_3/paths/fruit.csv

$schema: https://azuremlschemas.azureedge.net/latest/data.schema.json

name: fruit\_data\_strore\_3

version: 2

type: uri\_file

path: azureml://datastores/fruit\_data\_strore\_3/paths/fruit.csv

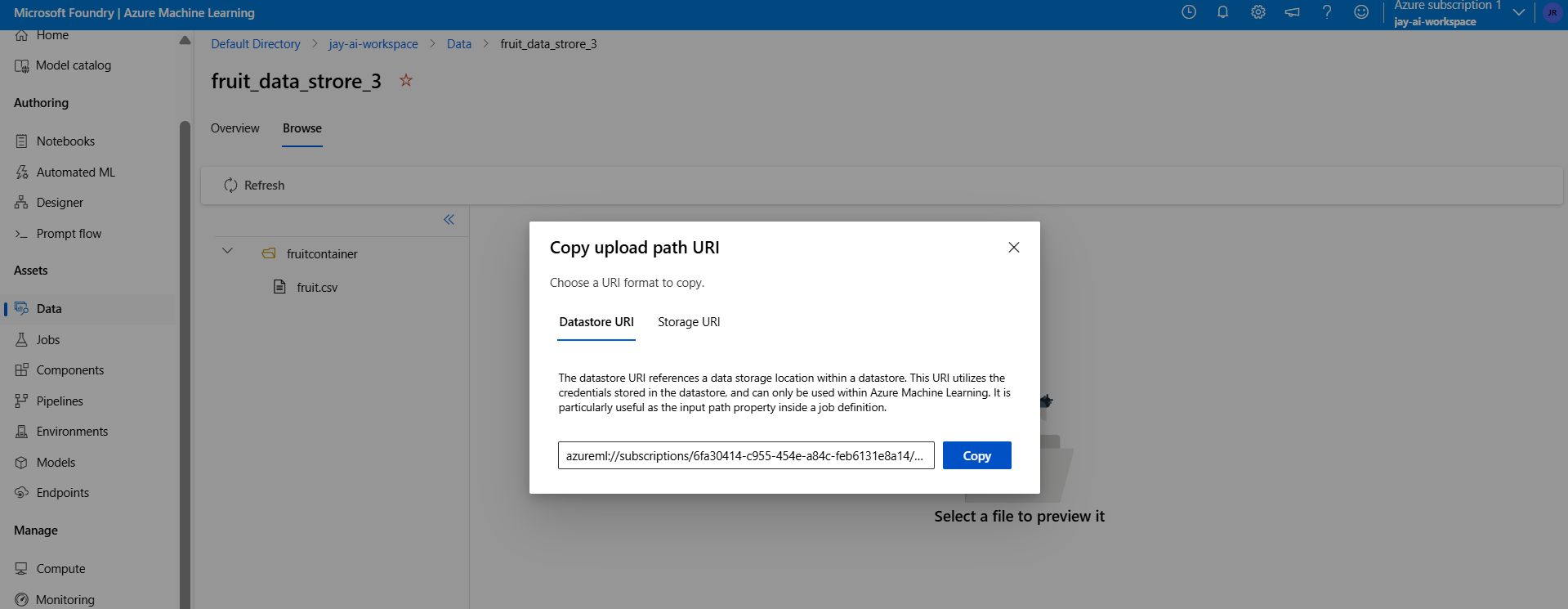
description: "fruits\_data\_asset data for training"

tags:

  purpose: training

if fruit.csv is inside any folder

path: azureml://datastores/fruit\_data\_strore\_3/paths/<folder>/fruit.csv



Azure cli command

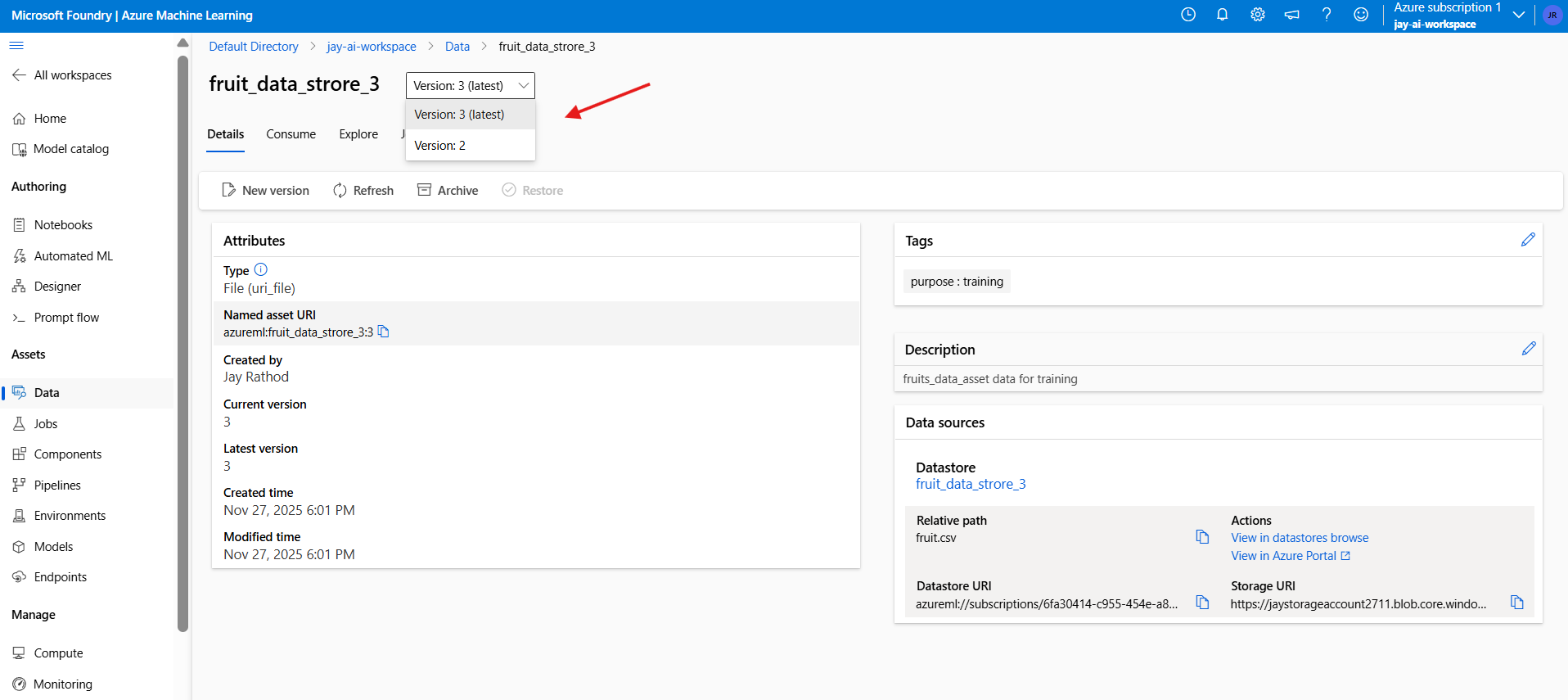
az ml data create `

--file "./yml\_files/data-asset.yml" `

--resource-group "rg\_demo03" `

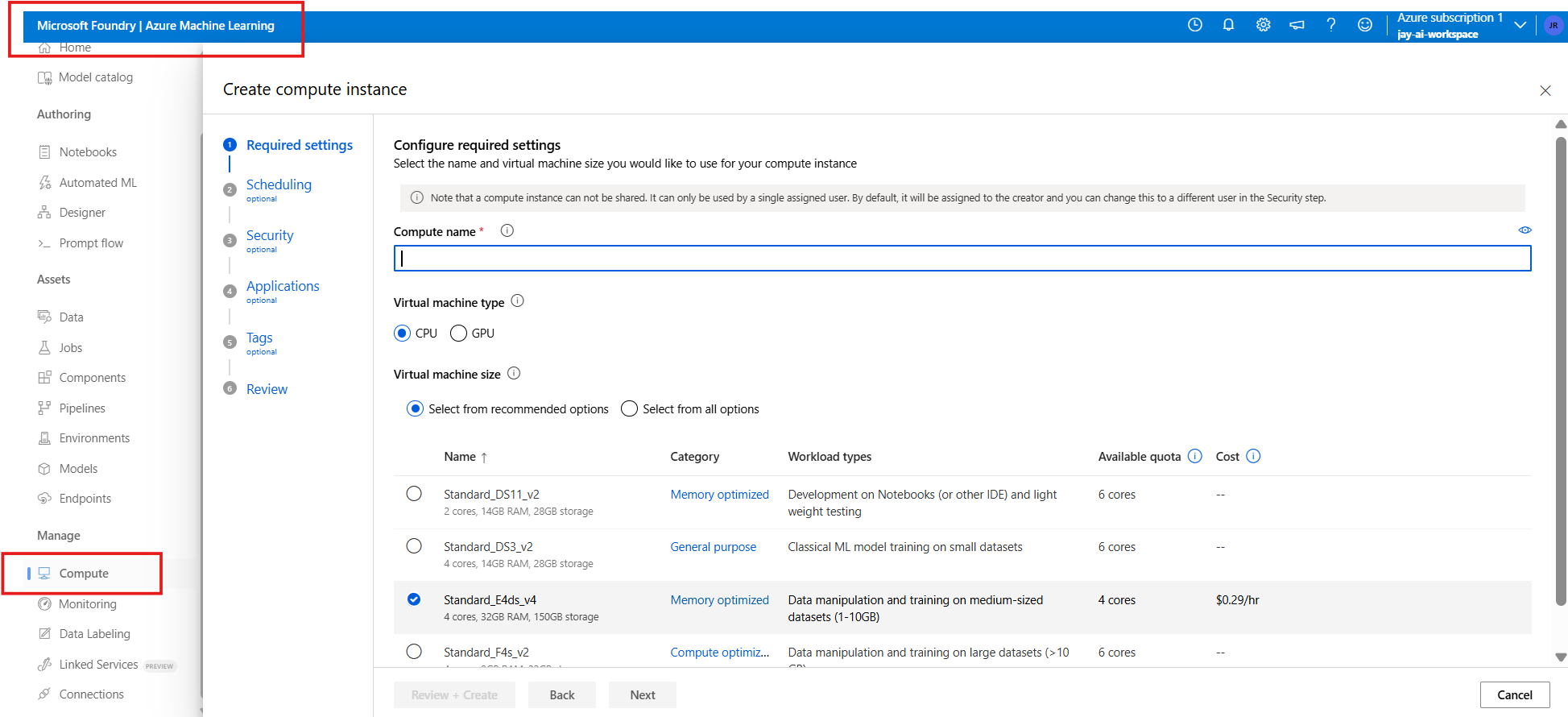
--workspace-name "ws\_demo\_pipeline03"

Can be verify

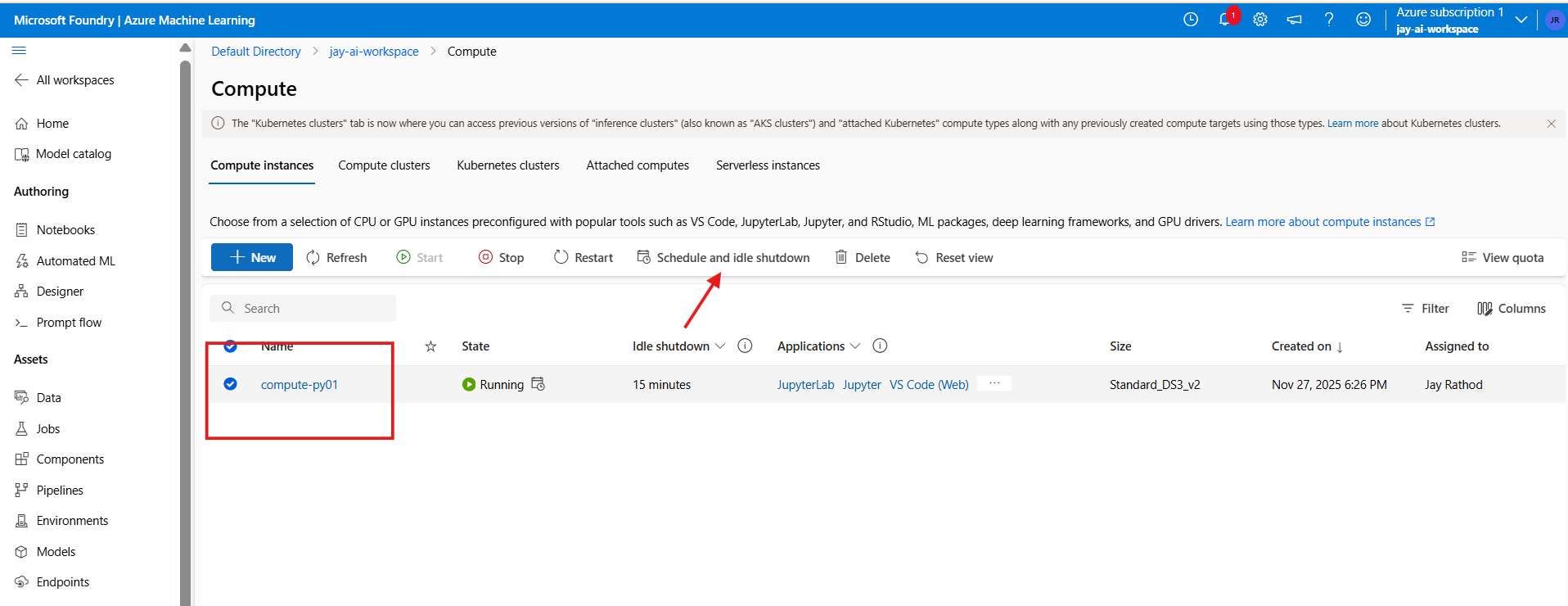


New must have different version/name

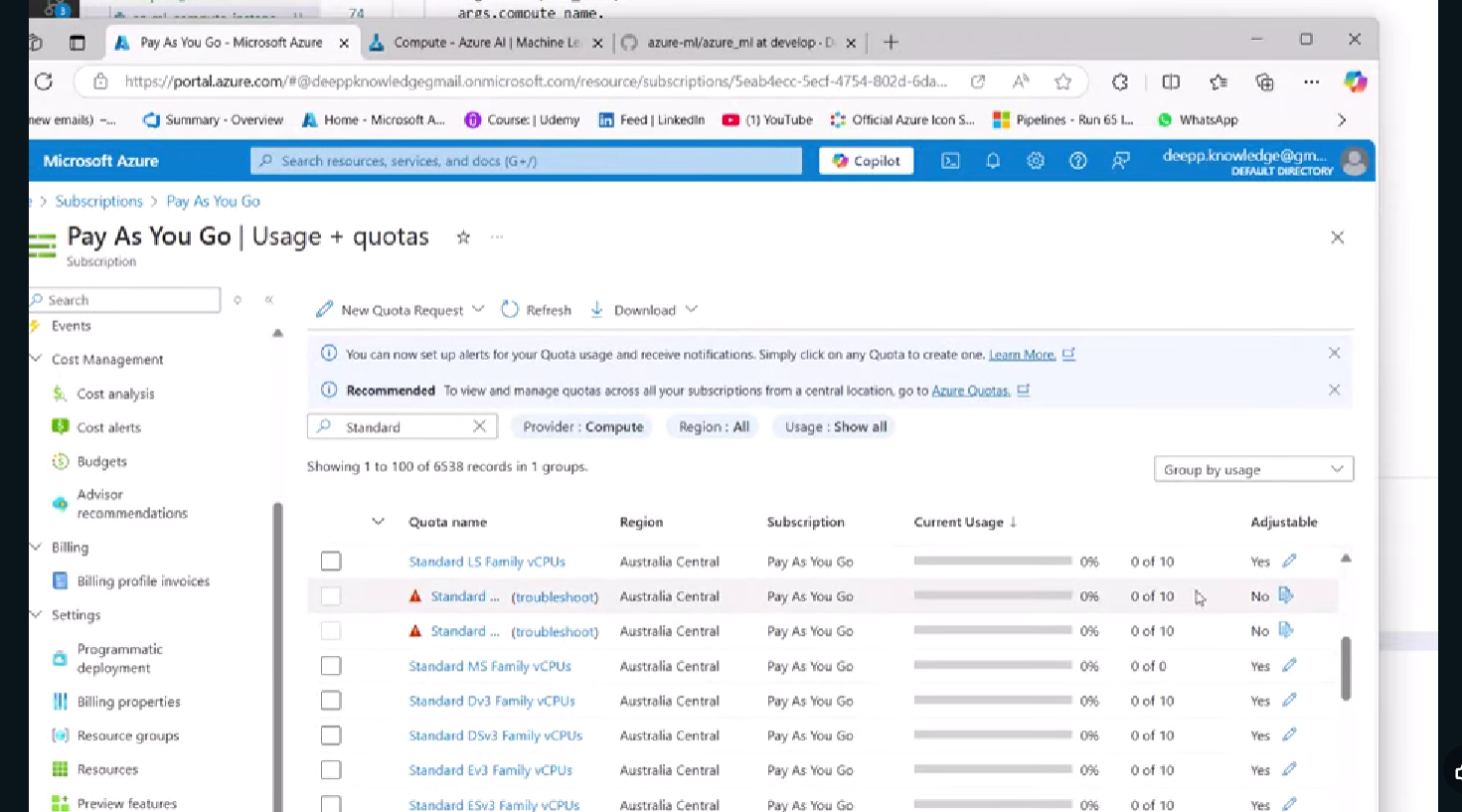
# Create Compute



Verify

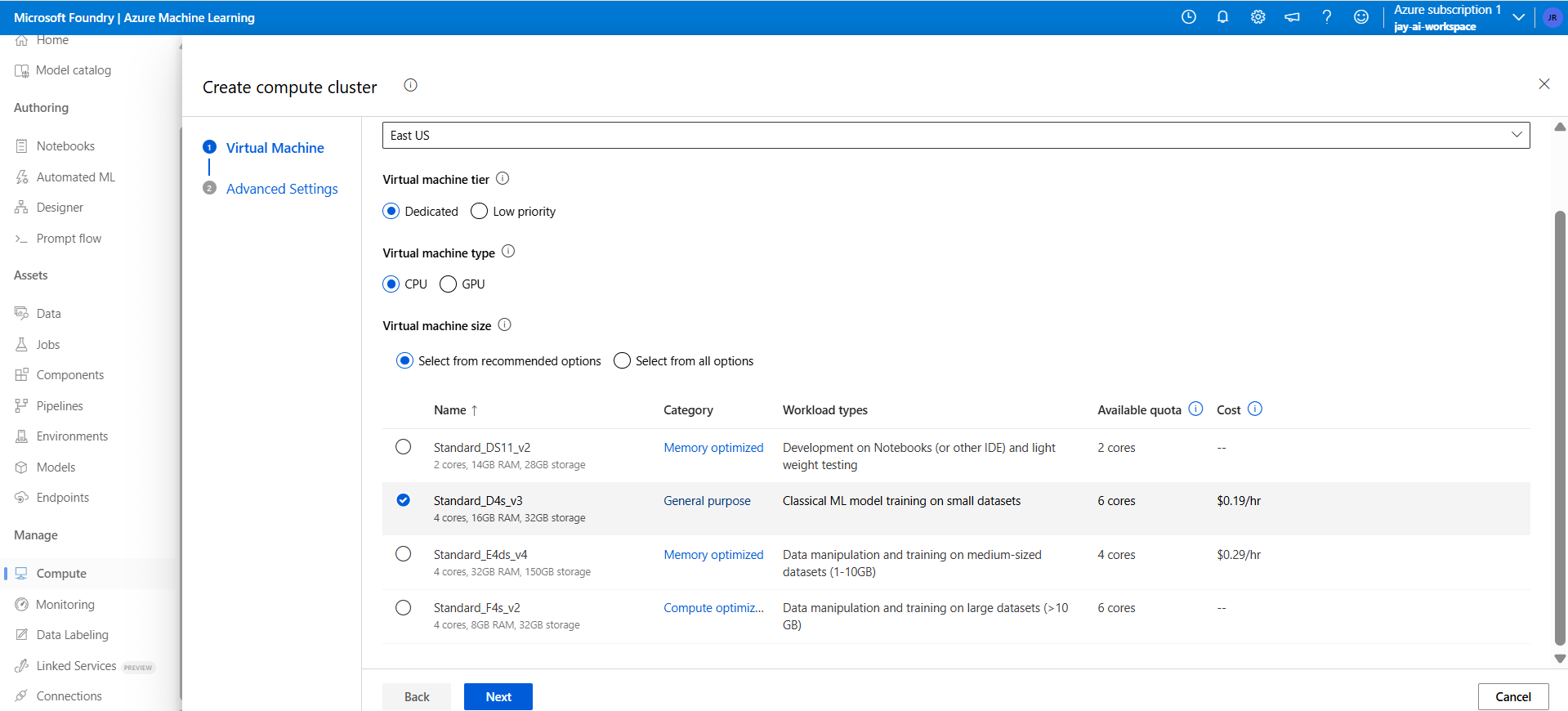


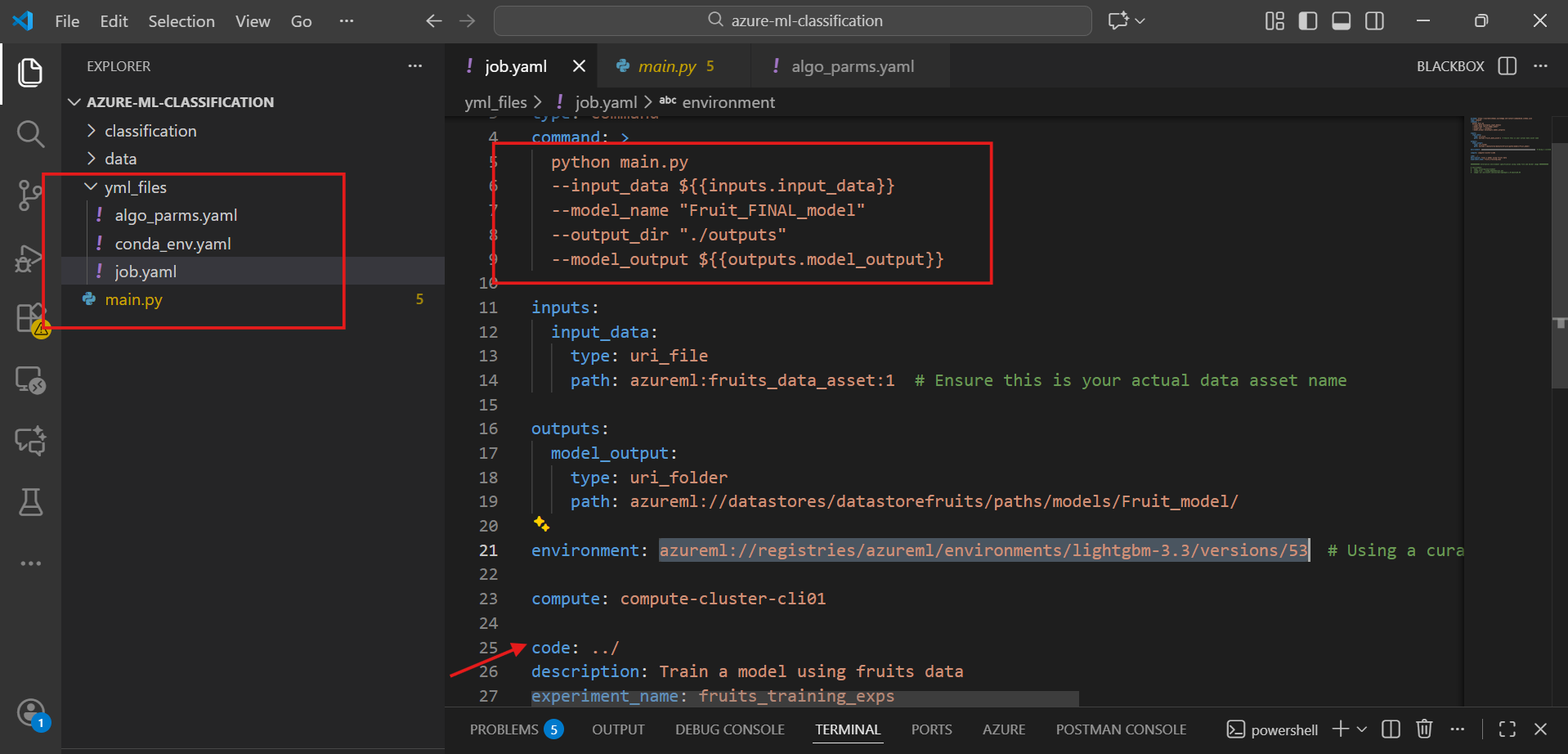
In case of pay-as-u-go option



For distributed training -> Go for Compute-cluster

# Run Model pipeline on the compute-cluster

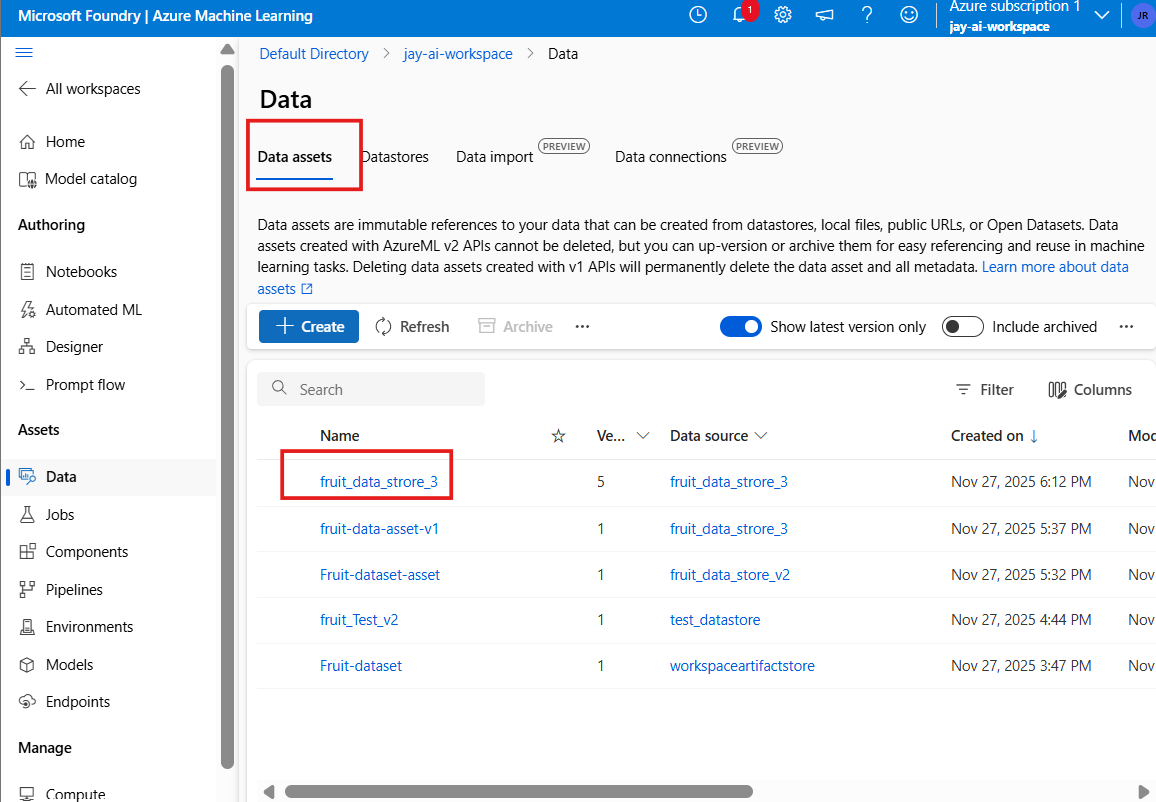
Created a cluster named “[compute-cluster-cli01](https://ml.azure.com/compute/compute-cluster-cli01/details?wsid=/subscriptions/6fa30414-c955-454e-a84c-feb6131e8a14/resourceGroups/rg-27-ml-cicd/providers/Microsoft.MachineLearningServices/workspaces/jay-ai-workspace&tid=f097ca78-f605-45f7-8bac-cbe6cbf80a7f)”

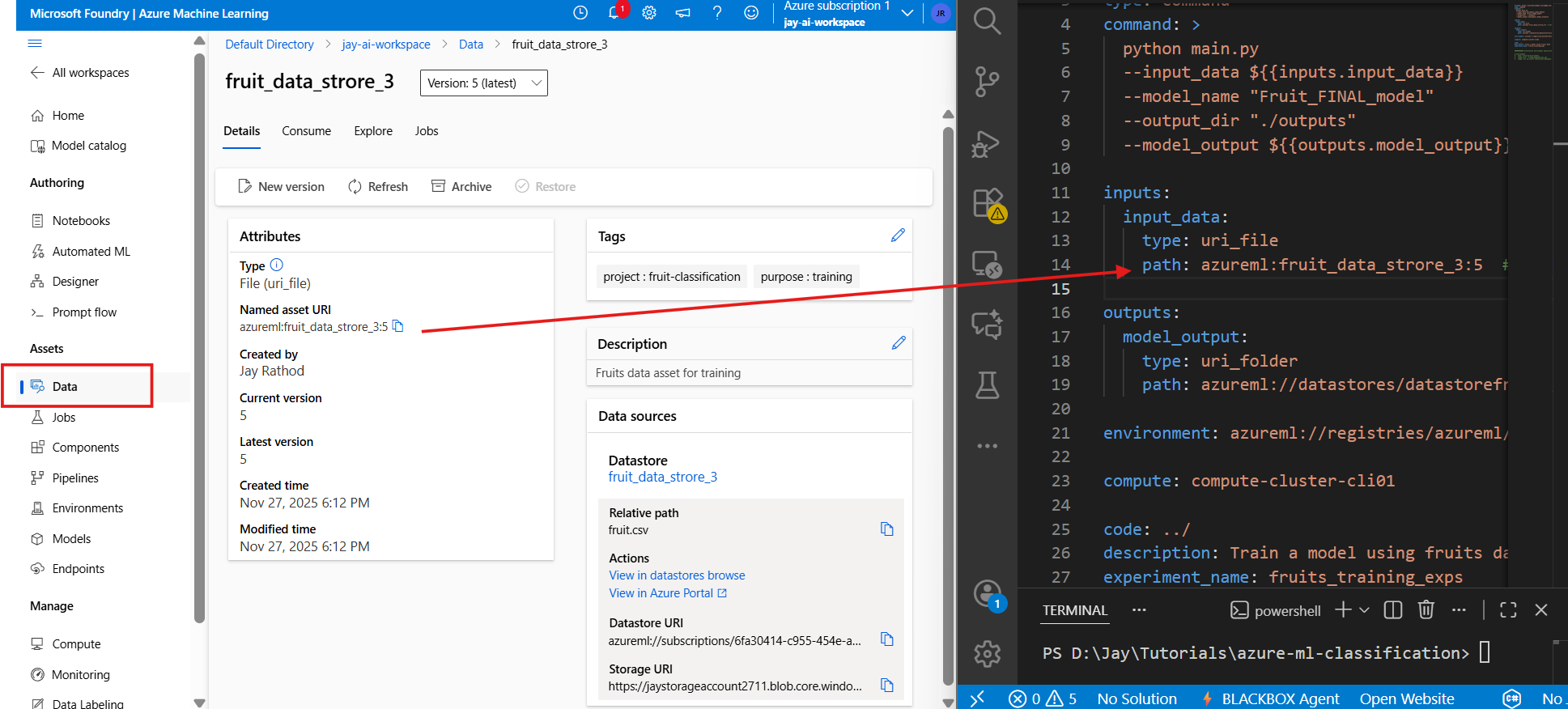


Code defined the starting point

Command defined what to run on the cluster and in which order

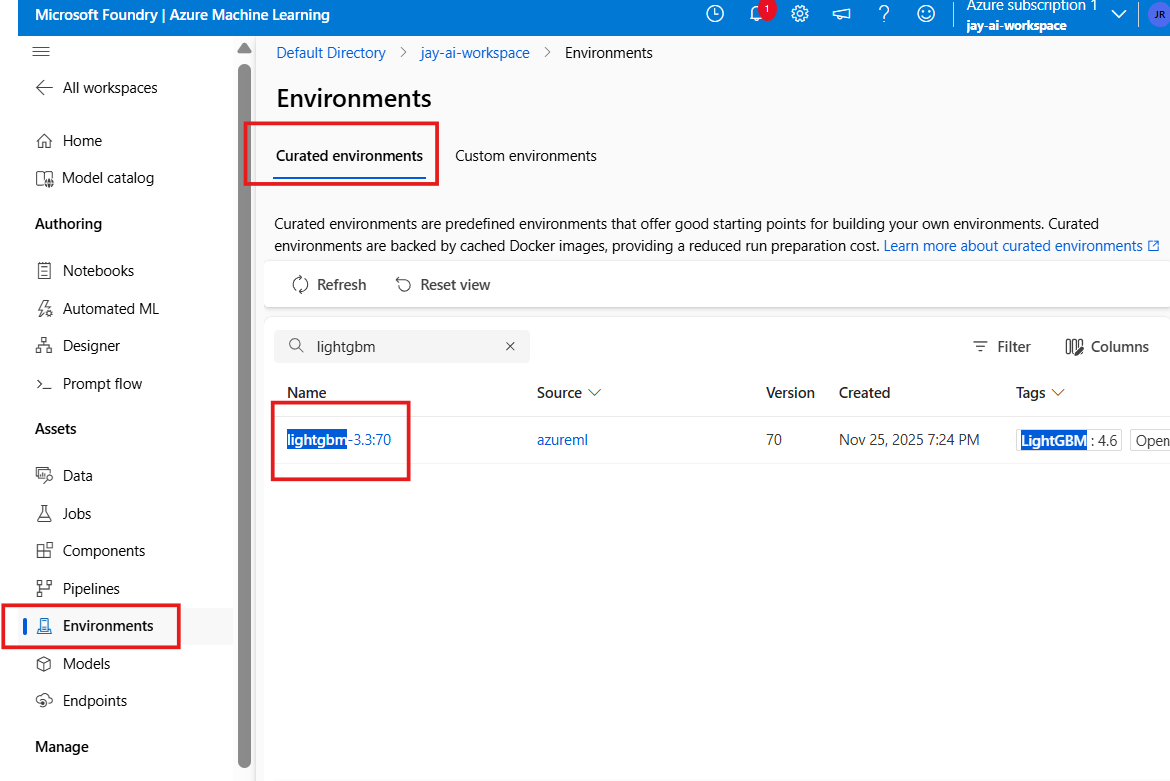
Define the data asset

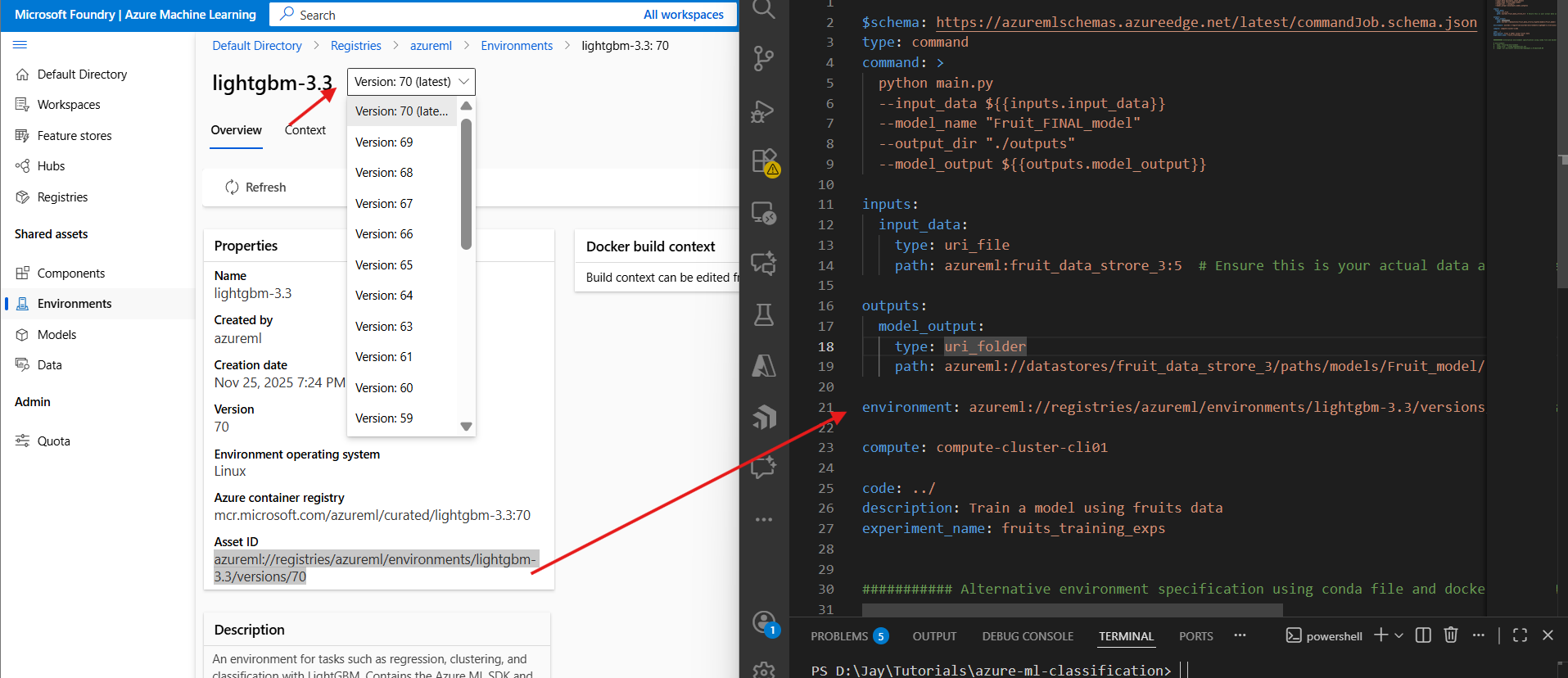


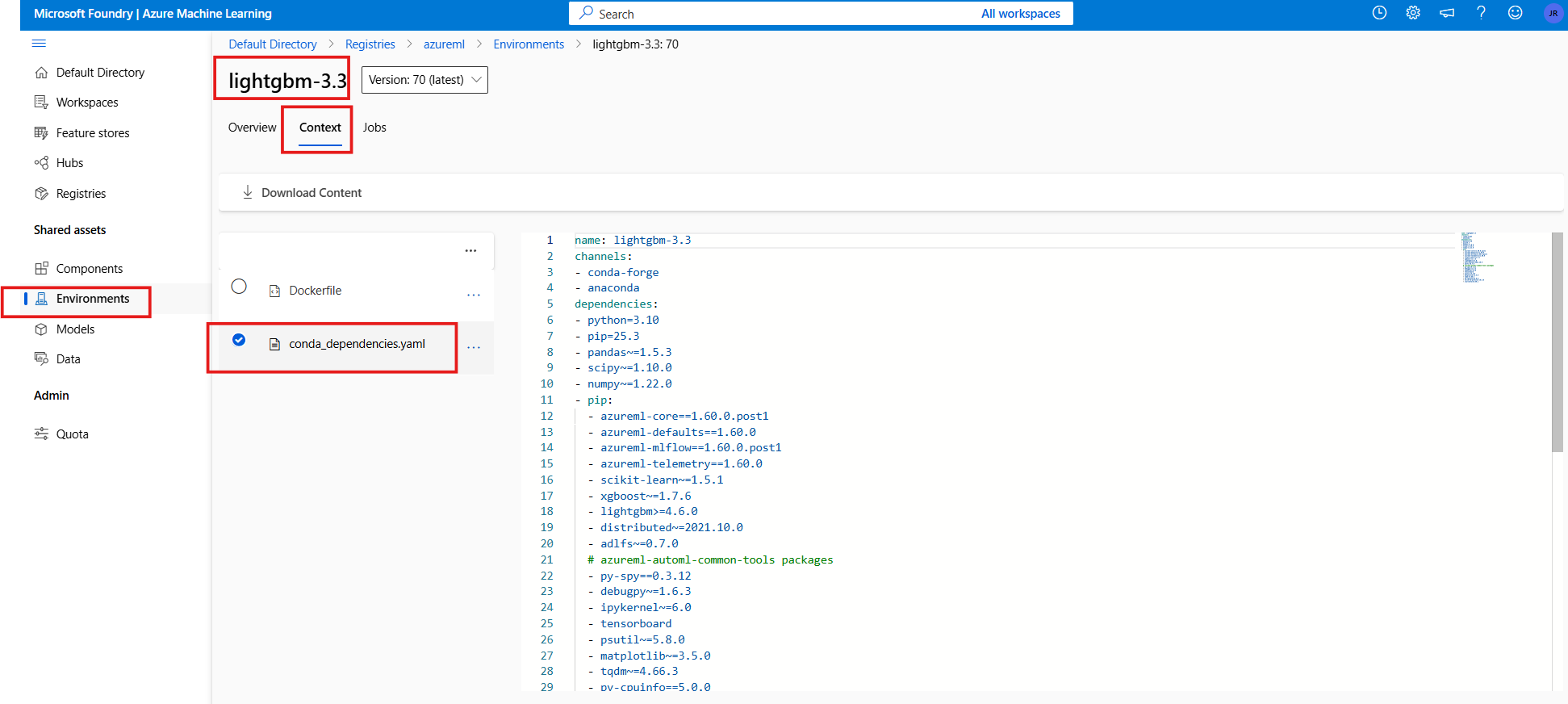


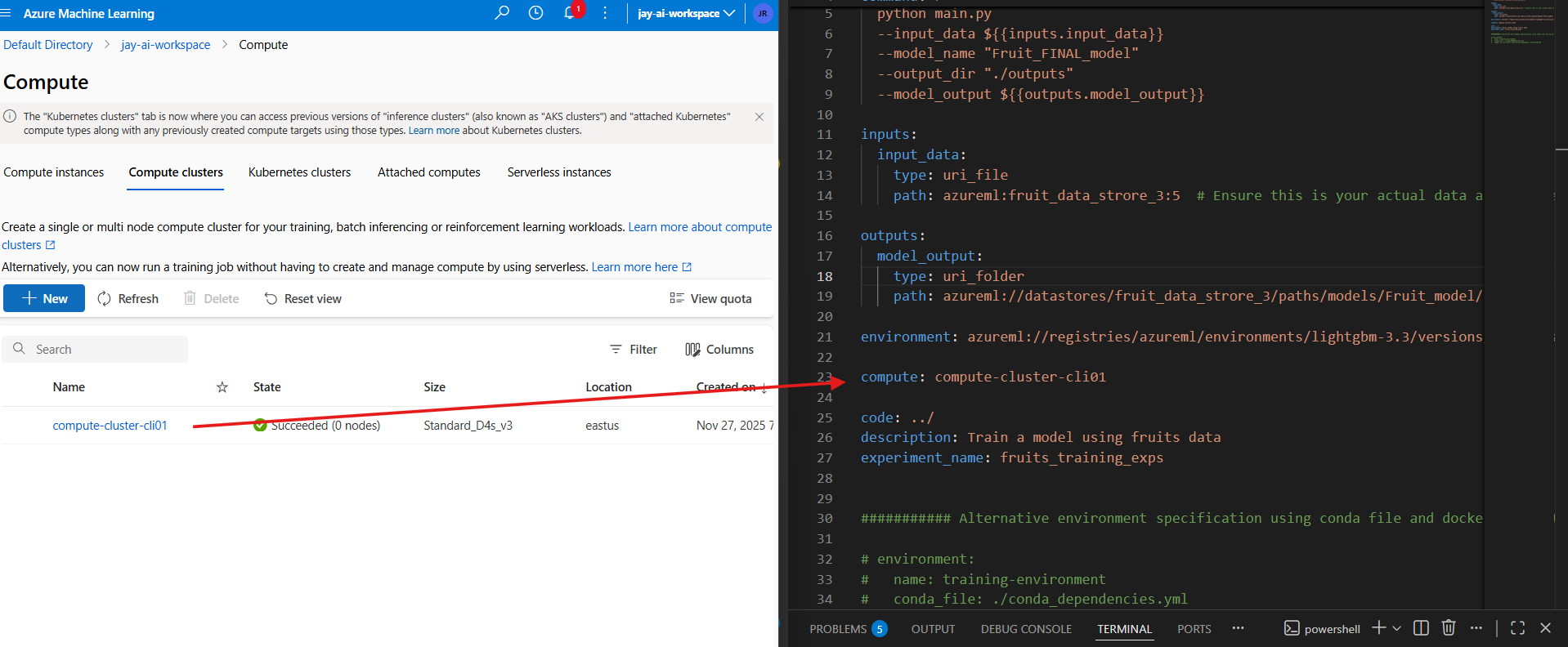
Out put path : path: azureml://datastores/fruit\_data\_strore\_3/paths/models/Fruit\_model/

Select env for dependency









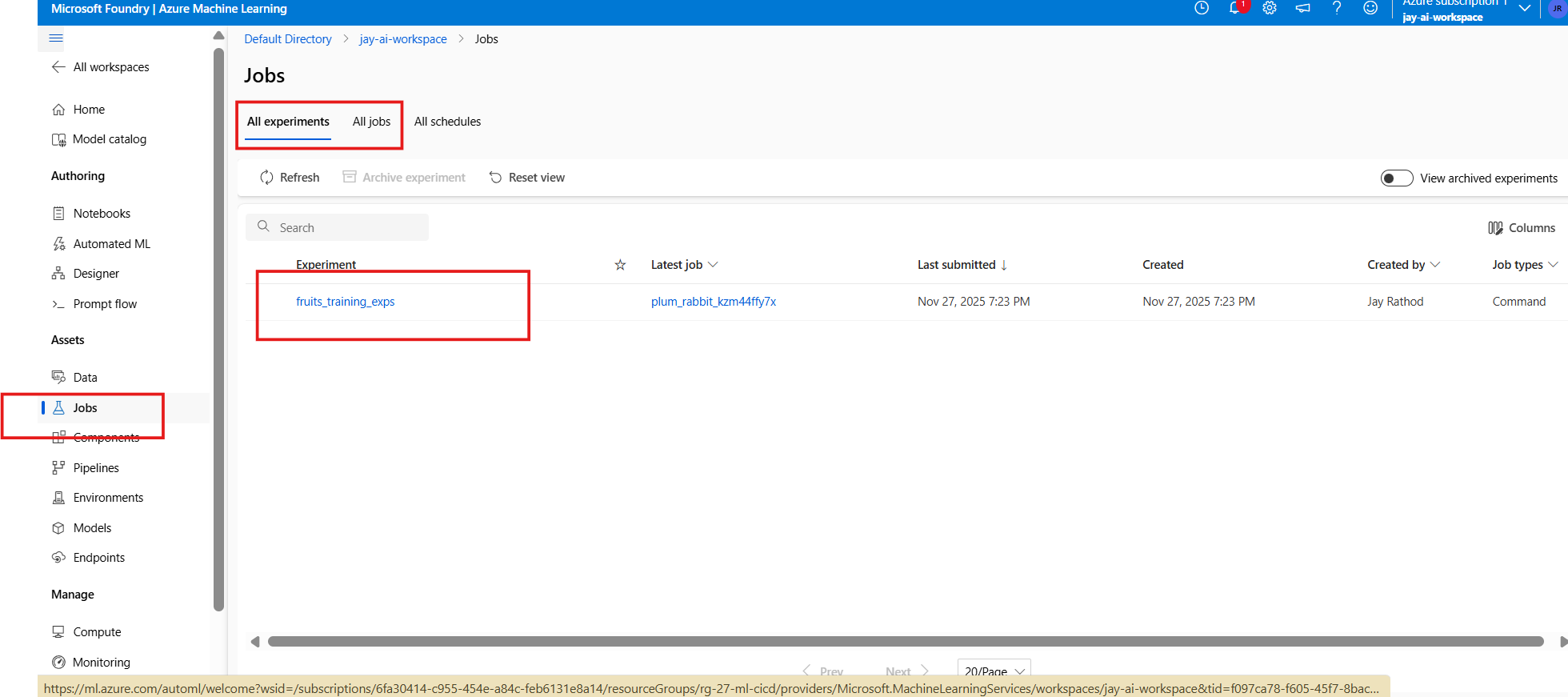
az ml job create `

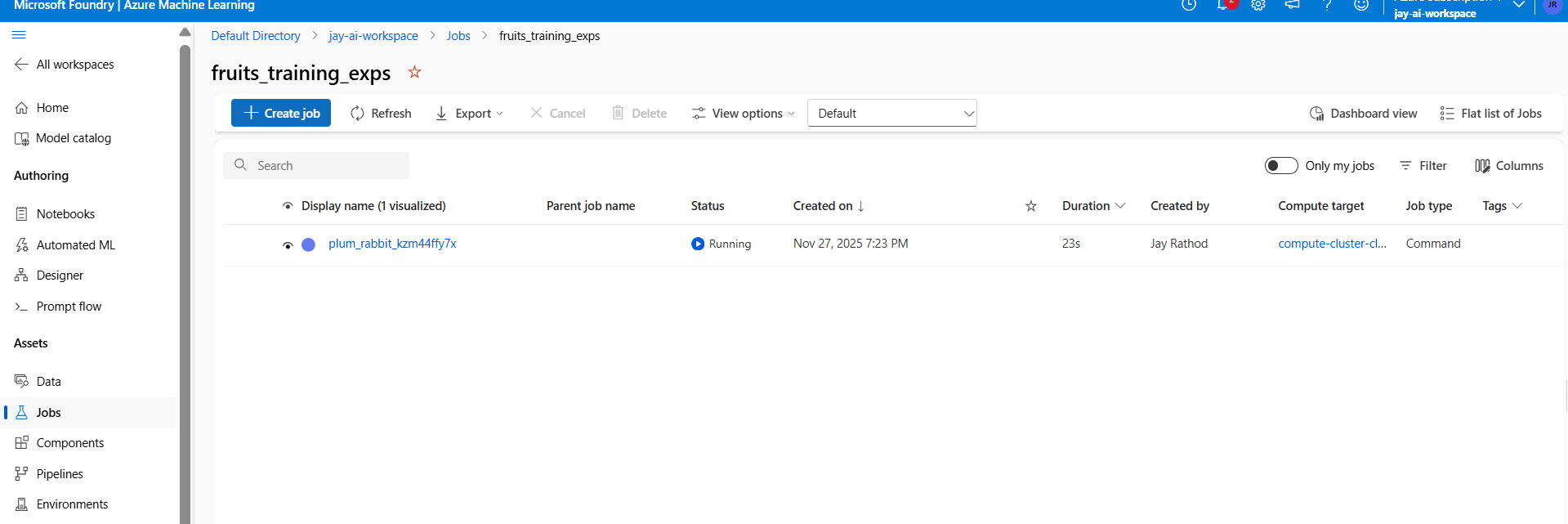
--file "./yml\_files/job.yaml" `

--resource-group "rg-27-ml-cicd" `

--workspace-name "jay-ai-workspace"

After training





ML table issue