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# Watson Studio

Watson Studio is part of Cloud Pak for Data and provides the data science capabilities of the data fabric architecture. Watson Studio provides the environment and tools for you to collaboratively work on data to solve your business problems. You can choose the tools you need to analyze and visualize data, to cleanse and shape data, to ingest streaming data, or to create and train machine learning models.

The screenshot displays the Watson Studio web interface. At the top, there's a navigation bar with the IBM logo, a search bar, and user information (Dallas, SR). Below this, the breadcrumb trail shows 'Projects / Customer data / Precipitation data analysis'. The main workspace contains a Jupyter Notebook with a code cell. The code imports necessary libraries (os, types, pandas, boto3, Config, ibm\_boto3) and defines a custom iterator class to fetch data from IBM Cloud Object Storage. It then uses this iterator to read a CSV file and displays the first few rows of the resulting DataFrame.

```
In [1]:
import os, types
import pandas as pd
from boto3.client import Config
import ibm_boto3

def __iter__(self): return 0

# @hidden_cell
# The following code accesses a file in your IBM Cloud Object Storage. It includes your credentials.
# You might want to remove those credentials before you share the notebook.
client_2d0ac51a1f3647bfb66c445dd2b711f = ibm_boto3.client(service_name='s3',
    ibm_api_key_id='AduOj8PI7He3L3dWyl4LxXv6zE50gMOQCE1qTODff',
    ibm_auth_endpoint='https://iam.cloud.ibm.com/oidc/token',
    config=Config(signature_version='oauth'),
    endpoint_url='https://s3.private.us.cloud-object-storage.appdomain.cloud')

body = client_2d0ac51a1f3647bfb66c445dd2b711f.get_object(Bucket='customerdata-donotdelete-pr-qfb0qd6xytllx',key='precipitation.csv')['Body']
# add missing __iter__ method, so pandas accepts body as file-like object
if not hasattr(body, "__iter__"): body.__iter__ = types.MethodType( __iter__, body )

df_data_1 = pd.read_csv(body)
df_data_1.head()
```

Out[1]:

	Country or Area	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
0	Albania	28385.000000	40311.000000	0.000000	0.000000	0.0	38284.000000	30683.000000	30491.000000	35883.000000	27893.000000	42787.000000
1	Algeria	76160.000000	90270.000000	53380.000000	74460.000000	66470.0	50150.000000	64430.000000	43840.000000	37317.000000	0.000000	0.000000
2	Andorra	539.947998	510.673004	560.340027	434.475006	254.0	450.151001	518.666016	456.626007	565.559021	566.583008	567.044006
3	Anguilla	93.099998	100.730003	0.000000	0.000000	0.0	0.000000	68.190002	70.730003	68.190002	108.769997	84.250000
4	Antigua and Barbuda	300.299988	374.500000	323.299988	279.200012	384.5	426.799988	249.600006	238.000000	268.600006	253.899994	426.899994

On the right side, the 'Information' panel is open, showing the 'Environment' tab. It displays the environment definition as 'Runtime 22.1 on Python 3.9 X', the language as 'Python 3.9', and hardware configuration as '2 vCPU 8 GB RAM'. The runtime status is 'Running'.

For more information check out the [official documentation](#).

Creating Jupyter Notebooks in Watson Studio [official documentation](#).

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