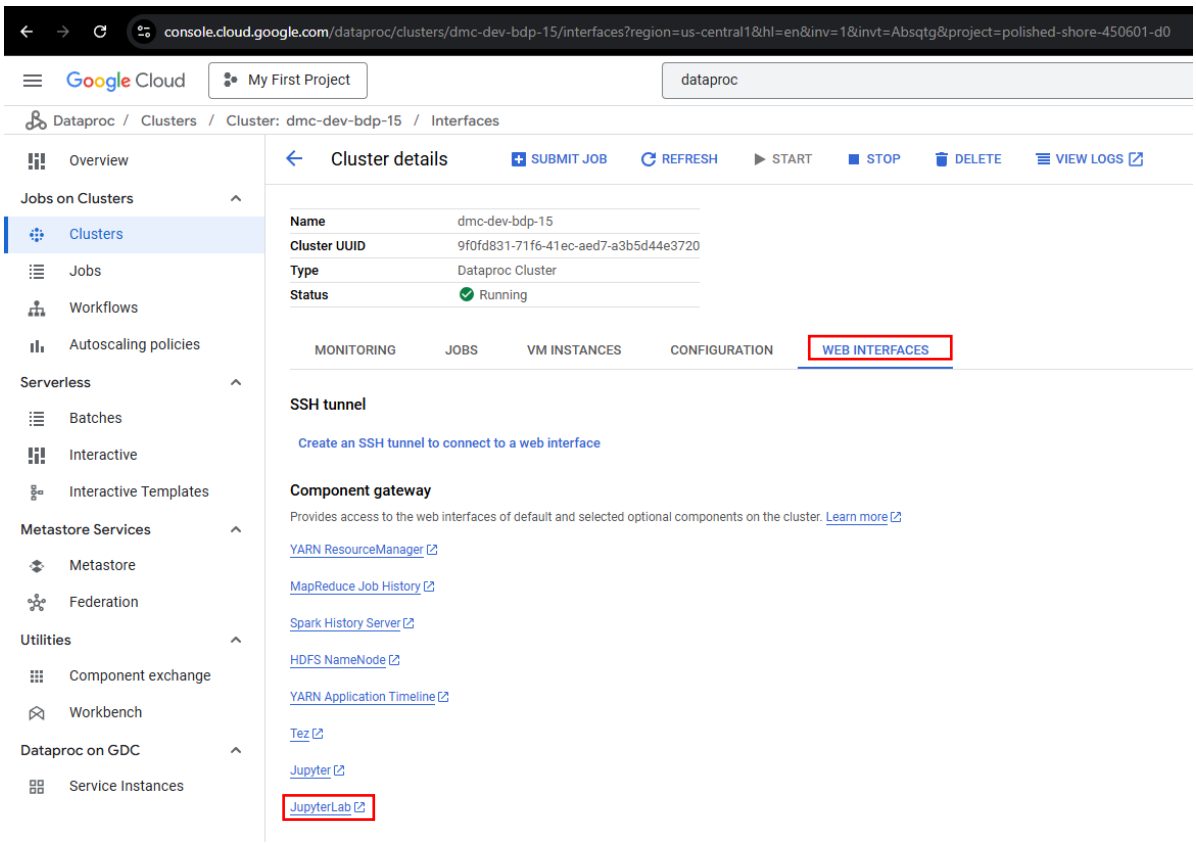
3.-Apache Spark

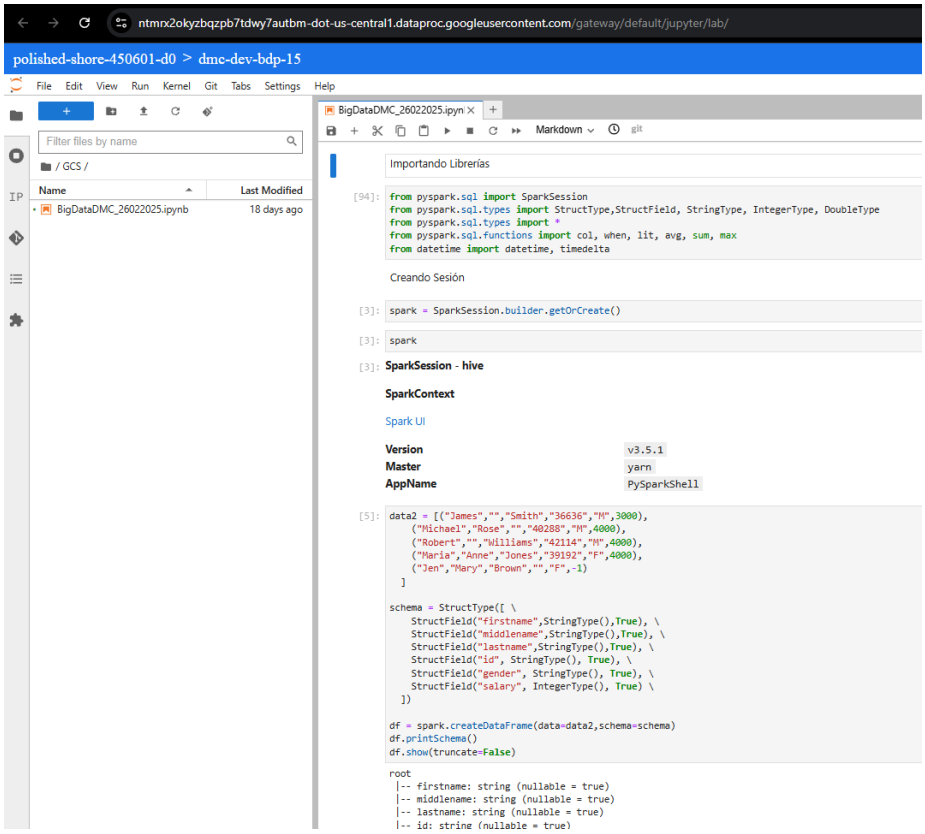
Laboratorio Desarrollo en Notebook con Apache Spark



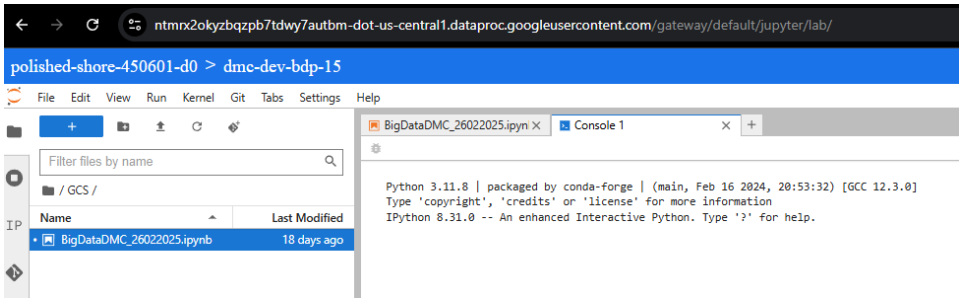
Jupyter Notebooks sobre Apache Spark en Google Cloud Platform

Importación de Módulos

Crear Sesión de Spark



El Spark Console se crea la sesión por defecto.

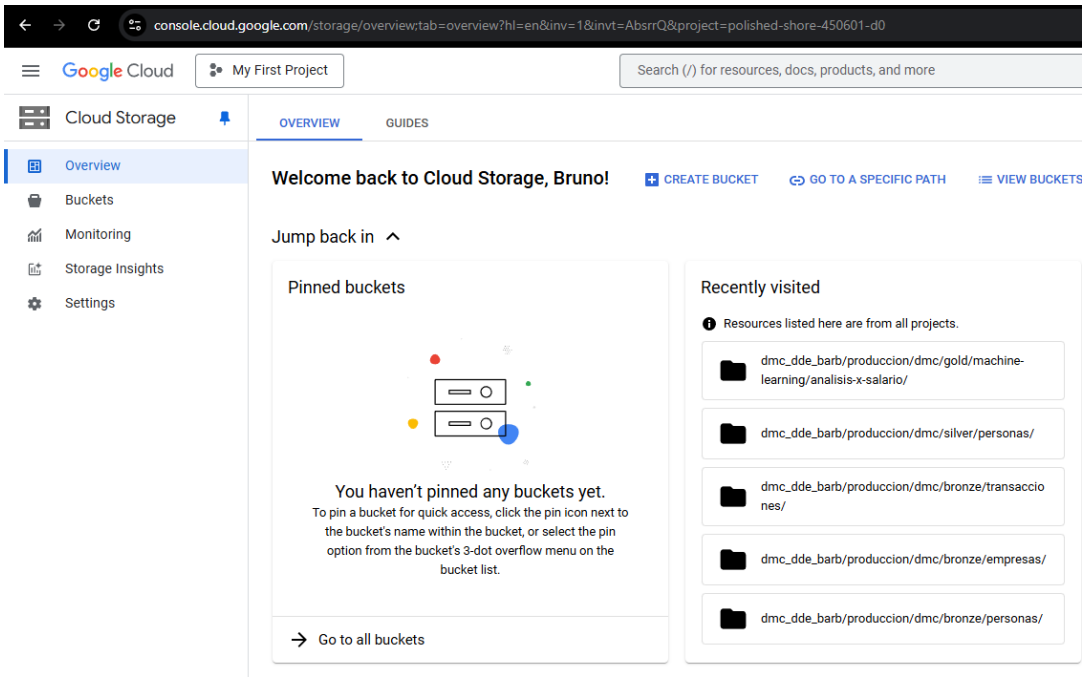


Dataframes con Schema

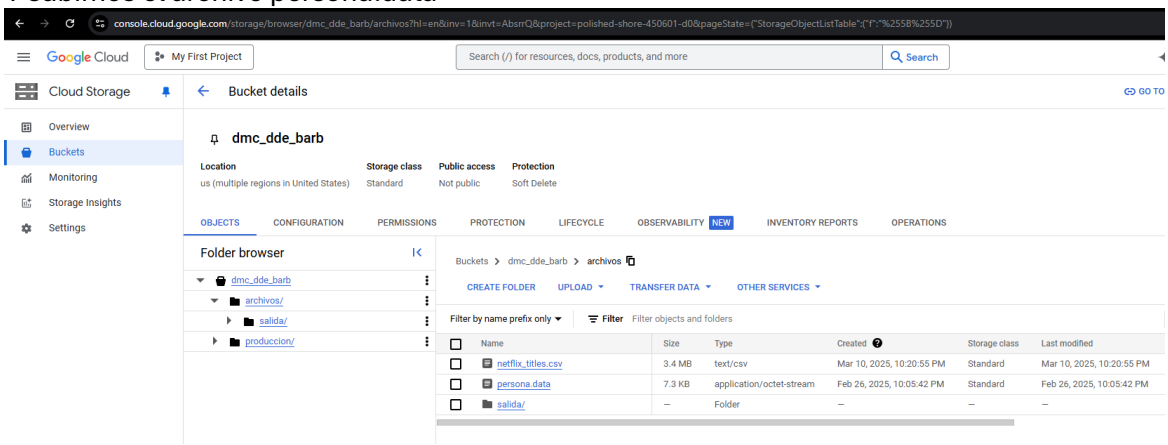
```
[5]: data2 = [("James","","Smith","36636","M",3000),
         ("Michael","Rose","","40288","M",4000),
         ("Robert","","Williams","42114","M",4000),
         ("Maria","Anne","Jones","39192","F",4000),
         ("Jen","Mary","Brown","","F",-1)
       ]

     schema = StructType([ \
         StructField("firstname",StringType(),True), \
         StructField("middlename",StringType(),True), \
         StructField("lastname",StringType(),True), \
         StructField("id", StringType(), True), \
         StructField("gender", StringType(), True), \
         StructField("salary", IntegerType(), True) \
       ])

     df = spark.createDataFrame(data=data2,schema=schema)
     df.printSchema()
     df.show(truncate=False)
```

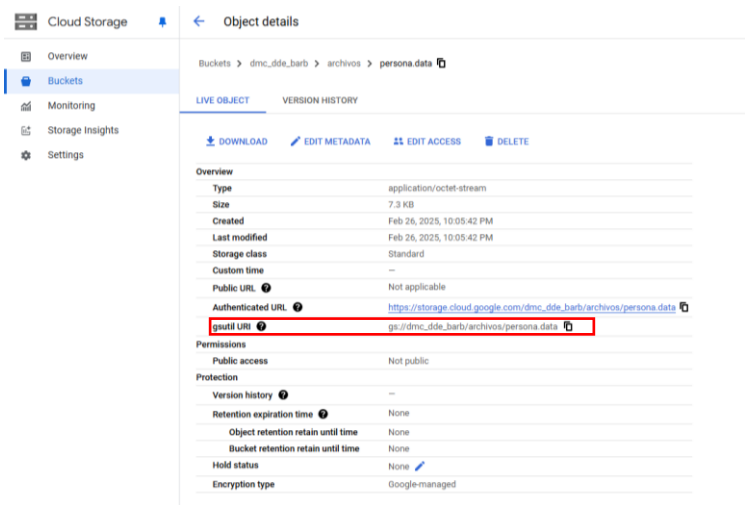
```
root
 |-- firstname: string (nullable = true)
 |-- middlename: string (nullable = true)
 |-- lastname: string (nullable = true)
 |-- id: string (nullable = true)
 |-- gender: string (nullable = true)
 |-- salary: integer (nullable = true)

+---------+----------+--------+-----+------+------+
|firstname|middlename|lastname|id   |gender|salary|
+---------+----------+--------+-----+------+------+
|James    |          |Smith   |36636|M     |3000  |
|Michael  |Rose      |        |40288|M     |4000  |
|Robert   |          |Williams|42114|M     |4000  |
|Maria    |Anne      |Jones   |39192|F     |4000  |
|Jen      |Mary      |Brown   |     |F     |-1    |
+---------+----------+--------+-----+------+------+
```

Creación de bucket para Cloud Storage en Google Cloud Plataform



Creamos un bucket dmc_dde_barb
Una carpeta archivos dentro del bucket dmc_dde_barb/archivos
Y subimos el archivo persona.data





Almacenar en un dataframe la lectura de archivos externos con spark.read.format

Función show para mostrar datos de un dataframe

Tipos StrucType y StructField para definir esquemas.

printSchema() para ver el esquema del dataframe.

BigDataDMC_26022025.ipyn × | Console 1

Markdown git

[6]:
```
ruta = 'gs://dmc_dde_barb/archivos/persona.data'

df_schema = StructType([
StructField("ID", StringType(),True),
StructField("NOMBRE", StringType(),True),
StructField("TELEFONO", StringType(),True),
StructField("CORREO", StringType(),True),
StructField("FECHA_INGRESO", StringType(),True),
StructField("EDAD", IntegerType(),True),
StructField("SALARIO", DoubleType(),True),
StructField("ID_EMPRESA", StringType(),True),
])


df_with_schema = spark.read.format("CSV").option("header","true").option("delimiter","|").schema(df_schema).load(ruta)
```

[7]:
```
df_with_schema.show(10)
```

```
[Stage 4:>                                                          (0 + 1) / 1]
+---+---------+--------------+--------------------+-------------+----+-------+----------+
| ID|   NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD|SALARIO|ID_EMPRESA|
+---+---------+--------------+--------------------+-------------+----+-------+----------+
|  1|     Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|20095.0|         5|
|  2|Priscilla|      155-2498|Donec.egestas.Ali...|   2019-02-17|  34| 9298.0|         2|
|  3|  Jocelyn|1-204-956-8594|amet.diam@loborti...|   2002-08-01|  27|10853.0|         3|
|  4|    Aidan|1-719-862-9385|euismod.et.commod...|   2018-11-06|  29| 3387.0|        10|
|  5|  Leandra|      839-8044|at@pretiumetrutru...|   2002-10-10|  41|22102.0|         1|
|  6|     Bert|      797-4453|a.felis.ullamcorp...|   2017-04-25|  70| 7800.0|         7|
|  7|     Mark|1-680-102-6792|Quisque.ac@placer...|   2006-04-21|  52| 8112.0|         5|
|  8|    Jonah|      214-2975|eu.ultrices.sit@v...|   2017-10-07|  23|17040.0|         5|
|  9|    Hanae|      935-2277|          eu@Nunc.ca|   2003-05-25|  69| 6834.0|         3|
| 10|   Cadman|1-866-561-2701|orci.adipiscing.n...|   2001-05-19|  19| 7996.0|         7|
+---+---------+--------------+--------------------+-------------+----+-------+----------+
only showing top 10 rows
```

Función Select

-dot-us-central1.dataproc.googleusercontent.com/gateway/default/jupyter/lab/

Help

BigDataDMC_26022025.ipyn × | Console 1

Code git

[14]:
```
df_with_schema.select("nombre","fecha_ingreso").show(4)
```

```
+---------+-------------+
|   nombre|fecha_ingreso|
+---------+-------------+
|     Carl|   2004-04-23|
|Priscilla|   2019-02-17|
|  Jocelyn|   2002-08-01|
|    Aidan|   2018-11-06|
+---------+-------------+
only showing top 4 rows
```

[13]:
```
df_with_schema.select(df_with_schema.NOMBRE, df_with_schema.FECHA_INGRESO).show(4)
```

```
+---------+-------------+
|   NOMBRE|FECHA_INGRESO|
+---------+-------------+
|     Carl|   2004-04-23|
|Priscilla|   2019-02-17|
|  Jocelyn|   2002-08-01|
|    Aidan|   2018-11-06|
+---------+-------------+
only showing top 4 rows
```

[16]:
```
df_with_schema.select(df_with_schema["nombre"],df_with_schema["fecha_ingreso"]).show(5)
```

```
+---------+-------------+
|   nombre|fecha_ingreso|
+---------+-------------+
|     Carl|   2004-04-23|
|Priscilla|   2019-02-17|
|  Jocelyn|   2002-08-01|
|    Aidan|   2018-11-06|
|  Leandra|   2002-10-10|
+---------+-------------+
only showing top 5 rows
```

[19]:
```
df_with_schema.select(col("nombre"),col("fecha_ingreso")).show(4)
```

```
+---------+-------------+
|   nombre|fecha_ingreso|
+---------+-------------+
|     Carl|   2004-04-23|
|Priscilla|   2019-02-17|
|  Jocelyn|   2002-08-01|
|    Aidan|   2018-11-06|
+---------+-------------+
only showing top 4 rows
```

Función withColumn, col, cast, when, otherwise

Help

BigDataDMC_26022025.ipyn | Console 1

Code git

[24]:
```
df_with_schema.withColumn("salario",col("salario").cast("integer")).show(5)
```

```
+---+---------+--------------+--------------------+-------------+----+-------+----------+
| ID|   NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD|salario|ID_EMPRESA|
+---+---------+--------------+--------------------+-------------+----+-------+----------+
|  1|     Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|  20095|         5|
|  2|Priscilla|      155-2498|Donec.egestas.Ali...|   2019-02-17|  34|   9298|         2|
|  3|  Jocelyn|1-204-956-8594|amet.diam@loborti...|   2002-08-01|  27|  10853|         3|
|  4|    Aidan|1-719-862-9385|euismod.et.commod...|   2018-11-06|  29|   3387|        10|
|  5|  Leandra|      839-8044|at@pretiumetrutru...|   2002-10-10|  41|  22102|         1|
+---+---------+--------------+--------------------+-------------+----+-------+----------+
only showing top 5 rows
```

[30]:
```
df_with_schema.withColumn("incremento",col("salario")*0.10).select(col("nombre"),col("salario"),col("incremento")).show(5)
```

```
+---------+-------+------------------+
|   nombre|salario|        incremento|
+---------+-------+------------------+
|     Carl|20095.0|            2009.5|
|Priscilla| 9298.0| 929.8000000000001|
|  Jocelyn|10853.0|            1085.3|
|    Aidan| 3387.0|338.70000000000005|
|  Leandra|22102.0|2210.2000000000003|
+---------+-------+------------------+
only showing top 5 rows
```

[42]:
```
limite_salario_bajo = 5000
inicio_salario_alto = 30000

df_with_schema.withColumn("tipo_salario", when(col("salario")<limite_salario_bajo,"salario bajo")\
                                          .when(((col("salario")>=limite_salario_bajo) & (col("salario")<inicio_salario_alto)),"salario medio")\
                                          .otherwise("salario alto")).show(10)
```

```
+---+---------+--------------+--------------------+-------------+----+-------+----------+-------------+
| ID|   NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD|SALARIO|ID_EMPRESA| tipo_salario|
+---+---------+--------------+--------------------+-------------+----+-------+----------+-------------+
|  1|     Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|20095.0|         5|salario medio|
|  2|Priscilla|      155-2498|Donec.egestas.Ali...|   2019-02-17|  34| 9298.0|         2|salario medio|
|  3|  Jocelyn|1-204-956-8594|amet.diam@loborti...|   2002-08-01|  27|10853.0|         3|salario medio|
|  4|    Aidan|1-719-862-9385|euismod.et.commod...|   2018-11-06|  29| 3387.0|        10| salario bajo|
|  5|  Leandra|      839-8044|at@pretiumetrutru...|   2002-10-10|  41|22102.0|         1|salario medio|
|  6|     Bert|      797-4453|a.felis.ullamcorp...|   2017-04-25|  70| 7800.0|         7|salario medio|
|  7|     Mark|1-680-102-6792|Quisque.ac@placer...|   2006-04-21|  52| 8112.0|         5|salario medio|
|  8|    Jonah|      214-2975|eu.ultrices.sit@v...|   2017-10-07|  23|17040.0|         5|salario medio|
|  9|    Hanae|      935-2277|          eu@Nunc.ca|   2003-05-25|  69| 6834.0|         3|salario medio|
| 10|   Cadman|1-866-561-2701|orci.adipiscing.n...|   2001-05-19|  19| 7996.0|         7|salario medio|
+---+---------+--------------+--------------------+-------------+----+-------+----------+-------------+
only showing top 10 rows
```

Función withColumnRenamed, drop, lit

Help

BigDataDMC_26022025.ipyn | Console 1

Code git

```
only showing top 10 rows
```

[43]:
```
df_with_schema.withColumnRenamed("salario","salary").show(10)
```

```
+---+---------+--------------+--------------------+-------------+----+-------+----------+
| ID|   NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD| salary|ID_EMPRESA|
+---+---------+--------------+--------------------+-------------+----+-------+----------+
|  1|     Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|20095.0|         5|
|  2|Priscilla|      155-2498|Donec.egestas.Ali...|   2019-02-17|  34| 9298.0|         2|
|  3|  Jocelyn|1-204-956-8594|amet.diam@loborti...|   2002-08-01|  27|10853.0|         3|
|  4|    Aidan|1-719-862-9385|euismod.et.commod...|   2018-11-06|  29| 3387.0|        10|
|  5|  Leandra|      839-8044|at@pretiumetrutru...|   2002-10-10|  41|22102.0|         1|
|  6|     Bert|      797-4453|a.felis.ullamcorp...|   2017-04-25|  70| 7800.0|         7|
|  7|     Mark|1-680-102-6792|Quisque.ac@placer...|   2006-04-21|  52| 8112.0|         5|
|  8|    Jonah|      214-2975|eu.ultrices.sit@v...|   2017-10-07|  23|17040.0|         5|
|  9|    Hanae|      935-2277|          eu@Nunc.ca|   2003-05-25|  69| 6834.0|         3|
| 10|   Cadman|1-866-561-2701|orci.adipiscing.n...|   2001-05-19|  19| 7996.0|         7|
+---+---------+--------------+--------------------+-------------+----+-------+----------+
only showing top 10 rows
```

[44]:
```
df_with_schema.drop("salario").show(5)
```

```
+---+---------+--------------+--------------------+-------------+----+----------+
| ID|   NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD|ID_EMPRESA|
+---+---------+--------------+--------------------+-------------+----+----------+
|  1|     Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|         5|
|  2|Priscilla|      155-2498|Donec.egestas.Ali...|   2019-02-17|  34|         2|
|  3|  Jocelyn|1-204-956-8594|amet.diam@loborti...|   2002-08-01|  27|         3|
|  4|    Aidan|1-719-862-9385|euismod.et.commod...|   2018-11-06|  29|        10|
|  5|  Leandra|      839-8044|at@pretiumetrutru...|   2002-10-10|  41|         1|
+---+---------+--------------+--------------------+-------------+----+----------+
only showing top 5 rows
```

[46]:
```
df_with_schema.withColumn("periodo",lit("202503")).show(10)
```

```
+---+---------+--------------+--------------------+-------------+----+-------+----------+-------+
| ID|   NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD|SALARIO|ID_EMPRESA|periodo|
+---+---------+--------------+--------------------+-------------+----+-------+----------+-------+
|  1|     Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|20095.0|         5| 202503|
|  2|Priscilla|      155-2498|Donec.egestas.Ali...|   2019-02-17|  34| 9298.0|         2| 202503|
|  3|  Jocelyn|1-204-956-8594|amet.diam@loborti...|   2002-08-01|  27|10853.0|         3| 202503|
|  4|    Aidan|1-719-862-9385|euismod.et.commod...|   2018-11-06|  29| 3387.0|        10| 202503|
|  5|  Leandra|      839-8044|at@pretiumetrutru...|   2002-10-10|  41|22102.0|         1| 202503|
|  6|     Bert|      797-4453|a.felis.ullamcorp...|   2017-04-25|  70| 7800.0|         7| 202503|
|  7|     Mark|1-680-102-6792|Quisque.ac@placer...|   2006-04-21|  52| 8112.0|         5| 202503|
|  8|    Jonah|      214-2975|eu.ultrices.sit@v...|   2017-10-07|  23|17040.0|         5| 202503|
|  9|    Hanae|      935-2277|          eu@Nunc.ca|   2003-05-25|  69| 6834.0|         3| 202503|
| 10|   Cadman|1-866-561-2701|orci.adipiscing.n...|   2001-05-19|  19| 7996.0|         7| 202503|
+---+---------+--------------+--------------------+-------------+----+-------+----------+-------+
only showing top 10 rows
```

Función Filter e isin

Help

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Code git

[52]:
```
fecha_actual = datetime.now()
print("hora del servidor: ",fecha_actual)
fecha_peru = fecha_actual - timedelta(hours=5)
periodo = fecha_peru.strftime("%Y%m")
print(periodo)
```

```
hora del servidor:  2025-03-04 02:32:30.982753
202503
```

[54]:
```
df_with_schema.filter(col("id_empresa")==5).show(10)
```

```
+---+------+--------------+--------------------+-------------+----+-------+----------+
| ID|NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD|SALARIO|ID_EMPRESA|
+---+------+--------------+--------------------+-------------+----+-------+----------+
|  1|  Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|20095.0|         5|
|  7|  Mark|1-680-102-6792|Quisque.ac@placer...|   2006-04-21|  52| 8112.0|         5|
|  8| Jonah|      214-2975|eu.ultrices.sit@v...|   2017-10-07|  23|17040.0|         5|
| 13|Trevor|      512-1955|Nunc.quis.arcu@eg...|   2010-08-06|  34| 9501.0|         5|
| 15| Wanda|      359-6973|Nam.nulla.magna@I...|   2005-08-21|  27| 1539.0|         5|
| 35|Aurora|1-865-751-3479|      magna@Cras.net|   2017-10-21|  54| 4588.0|         5|
| 50|  Ross|1-587-285-1837|at.risus@milacini...|   2009-11-03|  31|19092.0|         5|
| 51| Damon|      368-7630|nunc@dapibusquamq...|   2016-08-11|  49| 2669.0|         5|
| 59|Quemby|      930-5882|lorem.ut.aliquam@...|   2017-10-04|  26|12092.0|         5|
| 68| Hayes|      712-8783|     at@ametdiam.net|   2011-12-31|  31| 7523.0|         5|
+---+------+--------------+--------------------+-------------+----+-------+----------+
only showing top 10 rows
```

[56]:
```
df_with_schema.filter((col("id_empresa")==5) & (col("salario")>=10000)).show()
```

```
+---+------+--------------+--------------------+-------------+----+-------+----------+
| ID|NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD|SALARIO|ID_EMPRESA|
+---+------+--------------+--------------------+-------------+----+-------+----------+
|  1|  Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|20095.0|         5|
|  8| Jonah|      214-2975|eu.ultrices.sit@v...|   2017-10-07|  23|17040.0|         5|
| 50|  Ross|1-587-285-1837|at.risus@milacini...|   2009-11-03|  31|19092.0|         5|
| 59|Quemby|      930-5882|lorem.ut.aliquam@...|   2017-10-04|  26|12092.0|         5|
| 86|  Jack|      860-9554|parturient.montes...|   2017-03-10|  58|14473.0|         5|
+---+------+--------------+--------------------+-------------+----+-------+----------+
```

[63]:
```
lista_empresas = [2,3,5]
df_with_schema.filter(col("id_empresa").isin([2,3,5])).show(3)
df_with_schema.filter(col("id_empresa").isin(2,3,5)).show(3)
df_with_schema.filter(col("id_empresa").isin(lista_empresas)).show(3)
```

```
+---+---------+--------------+--------------------+-------------+----+-------+----------+
| ID|   NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD|SALARIO|ID_EMPRESA|
+---+---------+--------------+--------------------+-------------+----+-------+----------+
|  1|     Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|20095.0|         5|
|  2|Priscilla|      155-2498|Donec.egestas.Ali...|   2019-02-17|  34| 9298.0|         2|
|  3|  Jocelyn|1-204-956-8594|amet.diam@loborti...|   2002-08-01|  27|10853.0|         3|
```

Función like

Help

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Code git

[64]:
```
df_with_schema.filter(col("nombre").like("%ar%")).show()
```

```
+---+-------+--------------+--------------------+-------------+----+-------+----------+
| ID| NOMBRE|      TELEFONO|              CORREO|FECHA_INGRESO|EDAD|SALARIO|ID_EMPRESA|
+---+-------+--------------+--------------------+-------------+----+-------+----------+
|  1|   Carl|1-745-633-9145|arcu.Sed.et@ante....|   2004-04-23|  32|20095.0|         5|
|  7|   Mark|1-680-102-6792|Quisque.ac@placer...|   2006-04-21|  52| 8112.0|         5|
| 17|   Omar|      720-1543|Phasellus.vitae.m...|   2014-06-24|  60| 6851.0|         6|
| 21|Carissa|1-300-877-0859|dignissim.pharetr...|   2011-10-16|  31| 1952.0|        10|
| 25|  Pearl|1-850-202-3373|vel.convallis@rho...|   2018-12-21|  52|14756.0|         6|
| 39|Carolyn|      846-7060|metus.Aenean.sed@...|   2013-05-29|  64|22838.0|         6|
| 54|   Lars|1-554-600-0855|     commodo@Nam.edu|   2005-06-22|  25|20573.0|         1|
| 60|Bernard|      492-8823|vel.faucibus@Done...|   2005-04-15|  27|10825.0|         2|
| 76|   Omar|1-325-245-9578|elit.erat@utodiov...|   2012-11-19|  34|12163.0|         6|
| 87|  Karly|1-644-725-7241|tempor.erat@feugi...|   2011-06-12|  25| 3715.0|         1|
+---+-------+--------------+--------------------+-------------+----+-------+----------+
```

[65]:
```
data = [("James", "Sales", 3000), \
    ("Michael", "Sales", 4600), \
    ("Robert", "Sales", 4100), \
    ("Maria", "Finance", 3000), \
    ("James", "Sales", 3000), \
    ("Scott", "Finance", 3300), \
    ("Jen", "Finance", 3900), \
    ("Jeff", "Marketing", 3000), \
    ("Kumar", "Marketing", 2000), \
    ("Saif", "Sales", 4100) \
  ]
columns= ["employee_name", "department", "salary"]
df_a = spark.createDataFrame(data = data, schema = columns)
df_a.printSchema()
df_a.show(truncate=False)
```

```
root
 |-- employee_name: string (nullable = true)
 |-- department: string (nullable = true)
 |-- salary: long (nullable = true)

+-------------+----------+------+
|employee_name|department|salary|
+-------------+----------+------+
|James        |Sales     |3000  |
|Michael      |Sales     |4600  |
|Robert       |Sales     |4100  |
|Maria        |Finance   |3000  |
|James        |Sales     |3000  |
|Scott        |Finance   |3300  |
|Jen          |Finance   |3900  |
|Jeff         |Marketing |3000  |
|Kumar        |Marketing |2000  |
```

Función count, distinct, dropDuplicates

Help

BigDataDMC_26022025.ipyn | Console 1

Code git

[70]:
```
df_a.count()
```

[70]: 10

[72]:
```
df_a.distinct().show()
df_a.distinct().count()
```

```
+-------------+----------+------+
|employee_name|department|salary|
+-------------+----------+------+
|        James|     Sales|  3000|
|       Robert|     Sales|  4100|
|        Maria|   Finance|  3000|
|      Michael|     Sales|  4600|
|         Saif|     Sales|  4100|
|        Scott|   Finance|  3300|
|         Jeff| Marketing|  3000|
|          Jen|   Finance|  3900|
|        Kumar| Marketing|  2000|
+-------------+----------+------+
```

[72]: 9

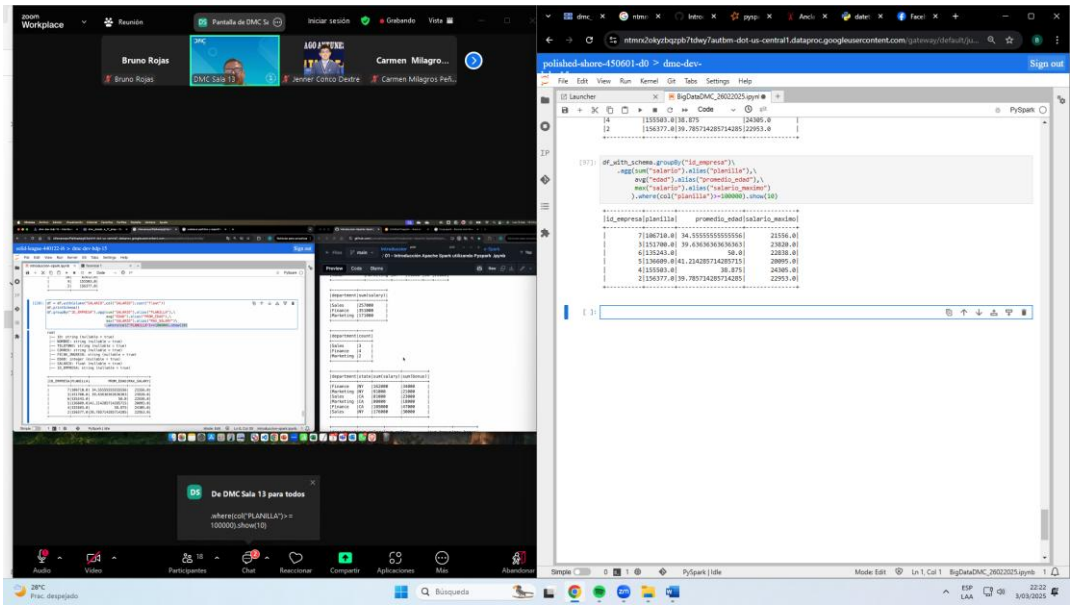
[74]:
```
df_a.dropDuplicates().show()
```

```
+-------------+----------+------+
|employee_name|department|salary|
+-------------+----------+------+
|        James|     Sales|  3000|
|       Robert|     Sales|  4100|
|        Maria|   Finance|  3000|
|      Michael|     Sales|  4600|
|         Saif|     Sales|  4100|
|        Scott|   Finance|  3300|
|         Jeff| Marketing|  3000|
|          Jen|   Finance|  3900|
|        Kumar| Marketing|  2000|
+-------------+----------+------+
```

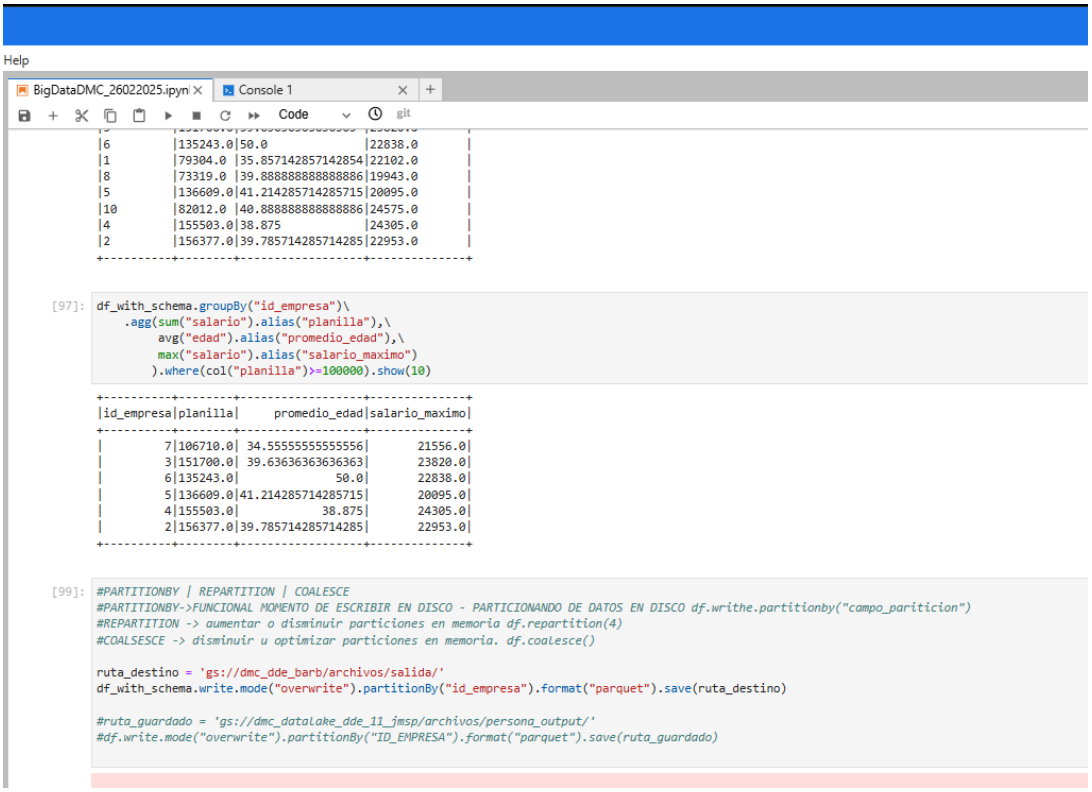
[75]:
```
df_a.dropDuplicates(["department","salary"]).show()
```

```
[Stage 78:============================>                    (1 + 1) / 2]
+-------------+----------+------+
|employee_name|department|salary|
+-------------+----------+------+
|        Maria|   Finance|  3000|
|        Scott|   Finance|  3300|
|          Jen|   Finance|  3900|
|        Kumar| Marketing|  2000|
|         Jeff| Marketing|  3000|
```

Función orderBy, asc, desc, groupBy, agg, sum, avg, max

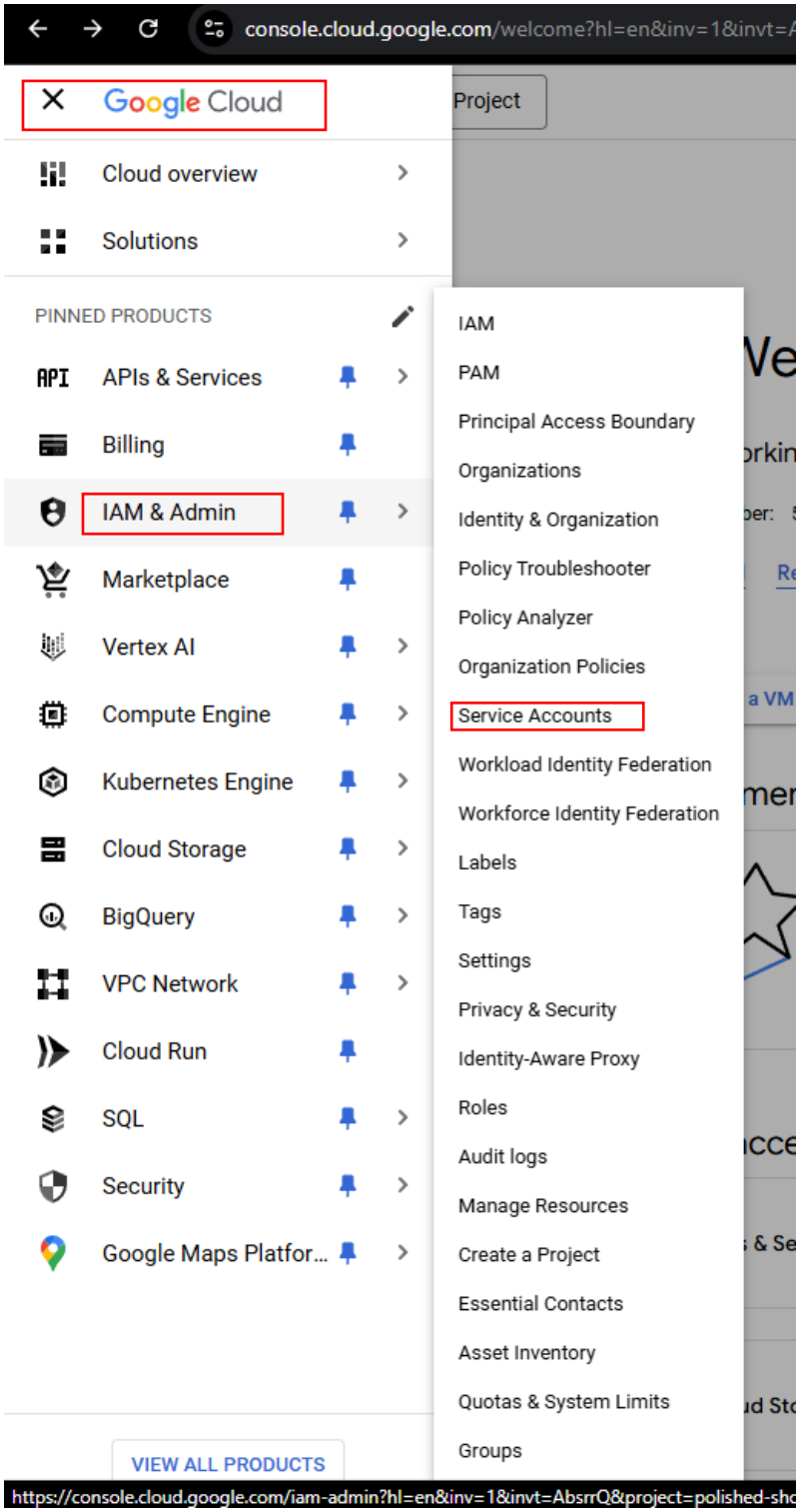


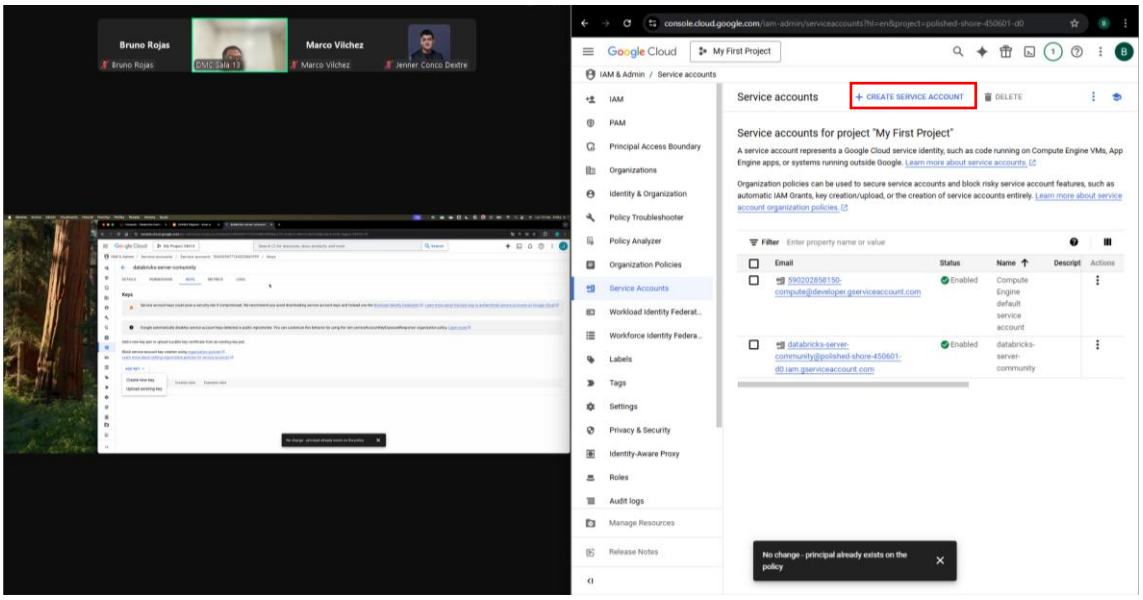
Función where, partitionby, write.mode, format, save

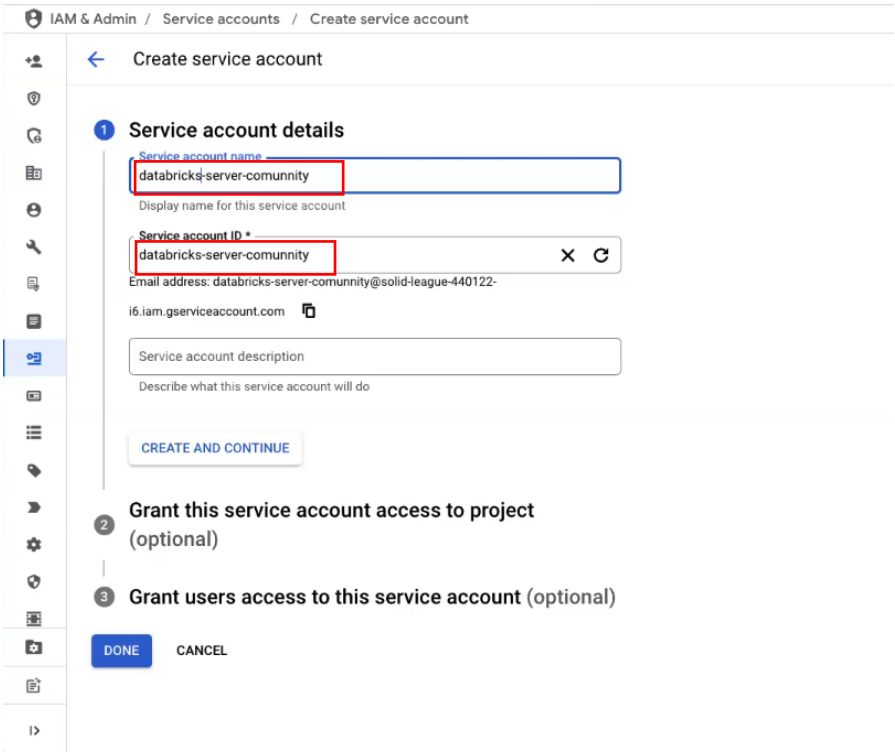


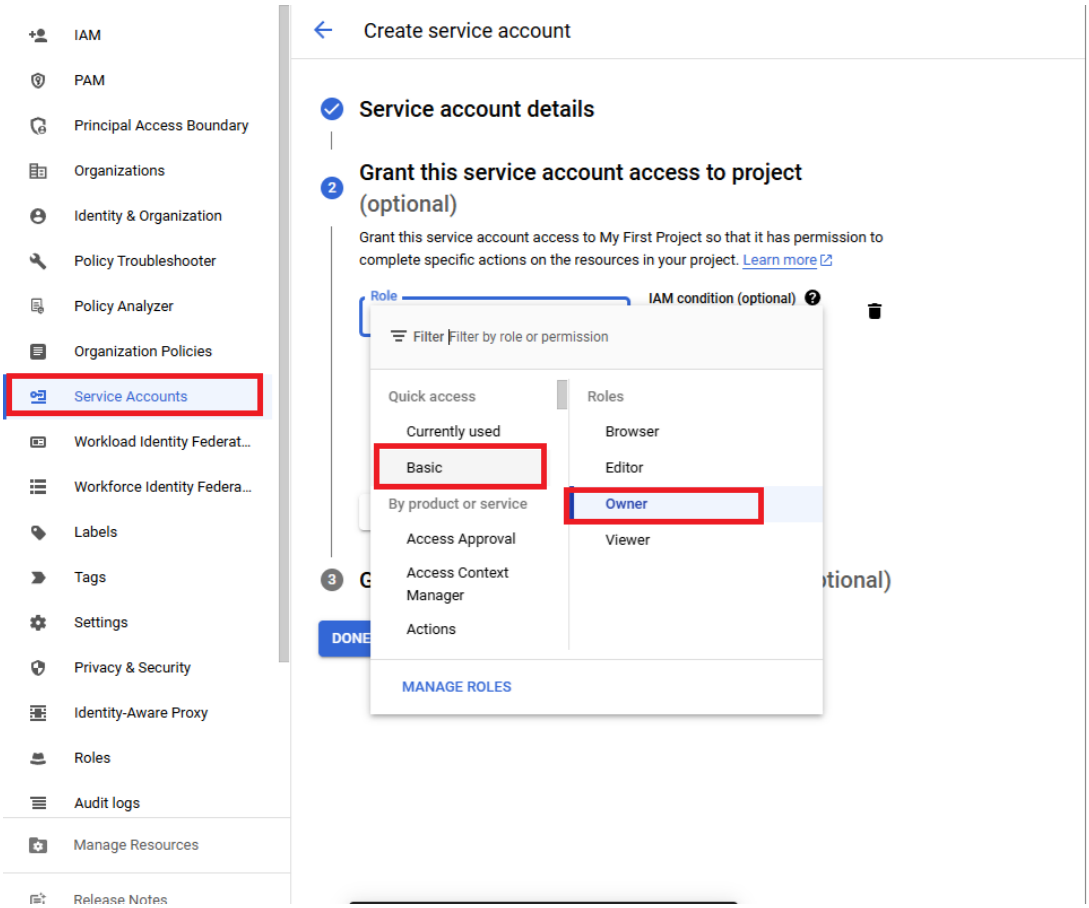
Apache Spark en Databrick

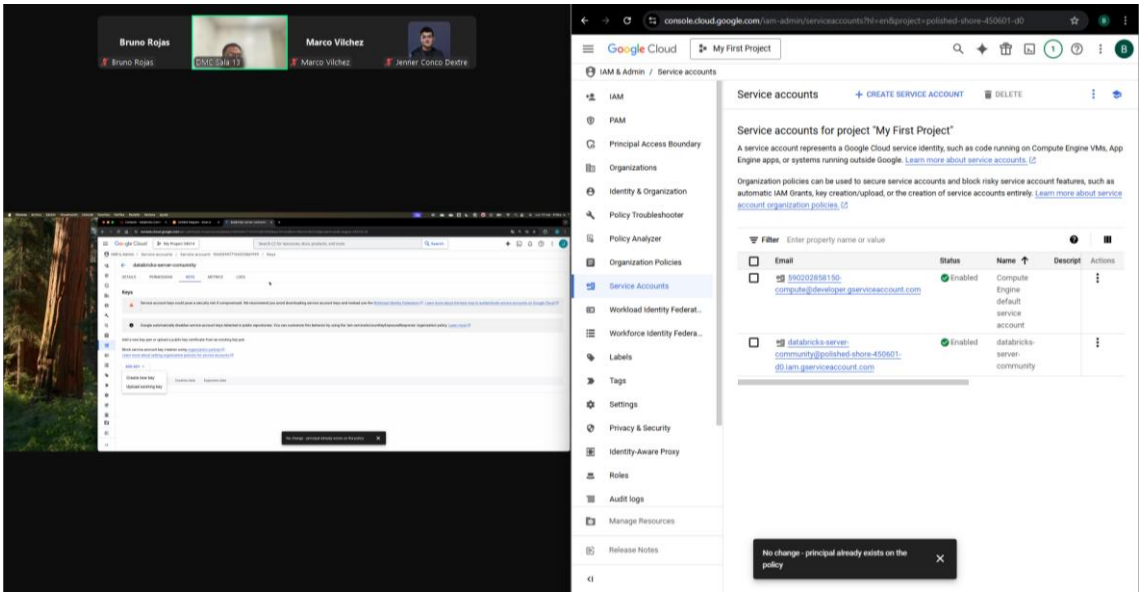
Creación de Credenciales a través de GCP→IAM & Admin→Service Accounts

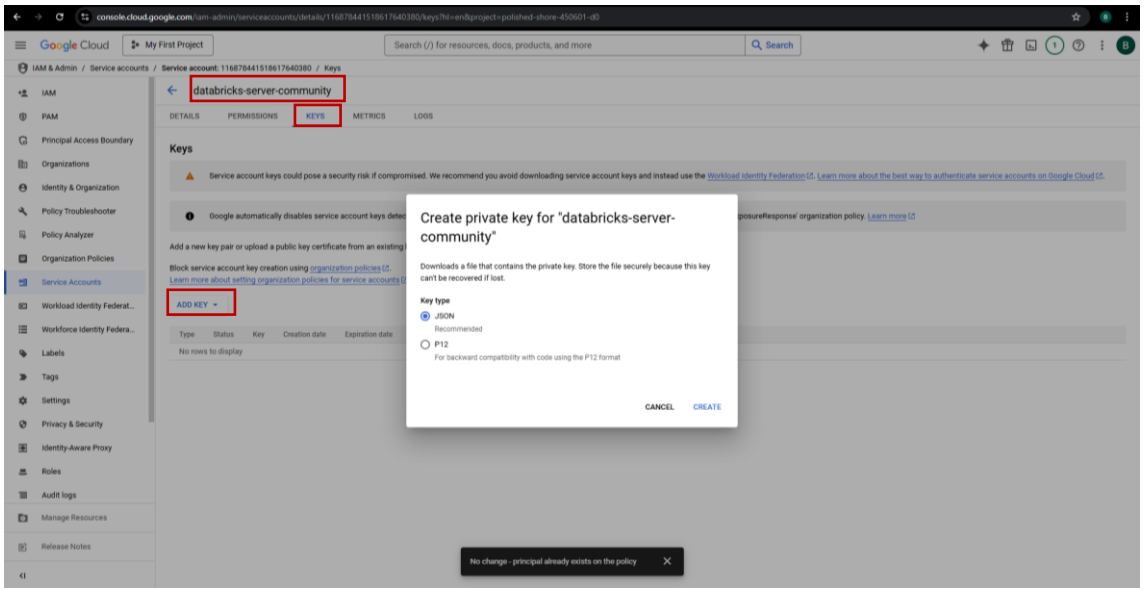



Bruno Rojas
Marco Vilchez
Google Cloud
My First Project
IAM & Admin / Service accounts
Service accounts
+ CREATE SERVICE ACCOUNT
DELETE
Service accounts for project "My First Project"
A service account represents a Google Cloud service identity, such as code running on Compute Engine VMs, App Engine apps, or systems running outside Google.
Organization policies can be used to secure service accounts and block risky service account features, such as automatic IAM Grants, key creation/upload, or the creation of service accounts entirely.
IAM
PAM
Principal Access Boundary
Organizations
Identity & Organization
Policy Troubleshooter
Policy Analyzer
Organization Policies
Service Accounts
Workload Identity Federat...
Workforce Identity Federa...
Labels
Tags
Settings
Privacy & Security
Identity-Aware Proxy
Roles
Audit logs
Manage Resources
Release Notes
Email
Status
Name
Descript
Actions
590202858150-compute@developer.gserviceaccount.com
Enabled
Compute Engine default service account
databricks-server-community@polished-shore-450601-d0.iam.gserviceaccount.com
Enabled
databricks-server-community
No change - principal already exists on the policy

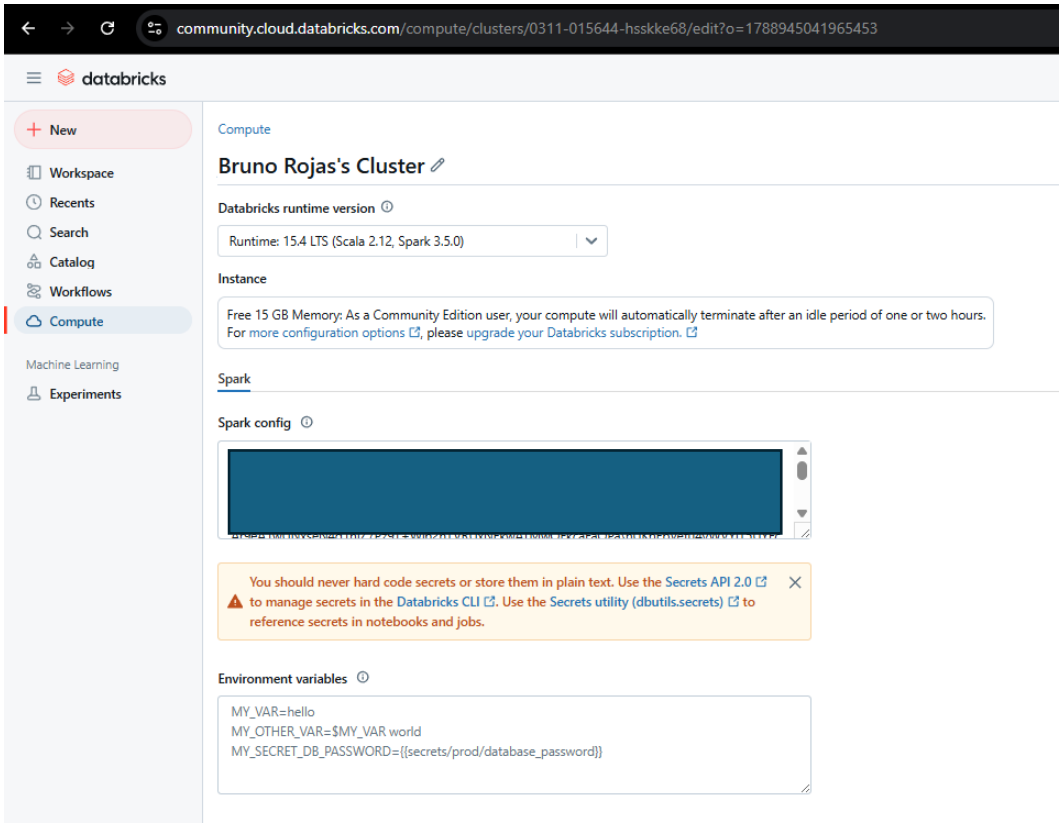

IAM & Admin / Service accounts / Create service account
Create service account
1 Service account details
Service account name
databricks-server-comunnity
Display name for this service account
Service account ID *
databricks-server-comunnity
Email address: databricks-server-comunnity@solid-league-440122-i6.iam.gserviceaccount.com
Service account description
Describe what this service account will do
CREATE AND CONTINUE
2 Grant this service account access to project (optional)
3 Grant users access to this service account (optional)
DONE
CANCEL


IAM
PAM
Principal Access Boundary
Organizations
Identity & Organization
Policy Troubleshooter
Policy Analyzer
Organization Policies
Service Accounts
Workload Identity Federat...
Workforce Identity Federa...
Labels
Tags
Settings
Privacy & Security
Identity-Aware Proxy
Roles
Audit logs
Manage Resources
Release Notes
Create service account
Service account details
Grant this service account access to project (optional)
Grant this service account access to My First Project so that it has permission to complete specific actions on the resources in your project. Learn more
Role
IAM condition (optional)
Filter Filter by role or permission
Quick access
Currently used
Basic
By product or service
Access Approval
Access Context Manager
Actions
Roles
Browser
Editor
Owner
Viewer
MANAGE ROLES
DONE


Bruno Rojas
Marco Vilchez
Google Cloud
My First Project
IAM & Admin / Service accounts
Service accounts
CREATE SERVICE ACCOUNT
DELETE
Service accounts for project "My First Project"
No change - principal already exists on the policy



Las credenciales creadas las seteamos en la configuración del cluster en databricks



Conectamos databricks con nuestro bucket de gcp

Python

Run all

Just now (1s)

```python
from pyspark.sql import SparkSession
from pyspark.sql.types import *

#Creamos las session de apache spark en una variable

spark = SparkSession.builder.getOrCreate()

ruta = 'gs://dmc_dde_barb/archivos/persona.data'

df_schema = StructType([
StructField("ID", StringType(),True),
StructField("NOMBRE", StringType(),True),
StructField("TELEFONO", StringType(),True),
StructField("CORREO", StringType(),True),
StructField("FECHA_INGRESO", StringType(),True),
StructField("EDAD", IntegerType(),True),
StructField("SALARIO", DoubleType(),True),
StructField("ID_EMPRESA", StringType(),True),
])

df_with_schema = spark.read.format("CSV").option("header","true").option("delimiter","|").schema(df_schema).load(ruta)
#df_with_schema.show()
display(df_with_schema)
```

(1) Spark Jobs

df_with_schema: pyspark.sql.dataframe.DataFrame = [ID: string, NOMBRE: string ... 6 more fields]

Table

	ID	NOMBRE	TELEFONO	CORREO	FECHA_ING...	EDAD	SALARIO	ID_EMPRESA
1	1	Carl	1-745-633-9145	arcu.Sed.et@ante.co.uk	2004-04-23	32	20095	5
2	2	Priscilla	155-2498	Donec.egestas.Aliquam@volutpatnunc.edu	2019-02-17	34	9298	2
3	3	Jocelyn	1-204-956-8594	amet.diam@lobortis.co.uk	2002-08-01	27	10853	3
4	4	Aidan	1-719-862-9385	euismod.et.commodo@nibhlaciniaorci.edu	2018-11-06	29	3387	10
5	5	Leandra	839-8044	at@pretiumetrutrum.com	2002-10-10	41	22102	1
6	6	Bert	797-4453	a.felis.ullamcorper@arcu.org	2017-04-25	70	7800	7
7	7	Mark	1-680-102-6792	Quisque.ac@placerat.ca	2006-04-21	52	8112	5
8	8	Jonah	214-2975	eu.ultrices.sit@vitae.ca	2017-10-07	23	17040	5
9	9	Hanae	935-2277	eu@Nunc.ca	2003-05-25	69	6834	3

Subimos un nuevo archivo a nuestro bucket que hemos descargado de kaggle y lo leemos desde databricks.

dmc_dde_barb

Location	Storage class	Public access	Protection
us (multiple regions in United States)	Standard	Not public	Soft Delete

OBJECTS CONFIGURATION PERMISSIONS PROTECTION LIFECYCLE OBSERVABILITY NEW INVENTORY REPORTS OPERATIONS

Folder browser

- dmc_dde_barb
  - archivos/
    - salida/
  - produccion/

Buckets > dmc_dde_barb > archivos

CREATE FOLDER UPLOAD TRANSFER DATA OTHER SERVICES

Filter by name prefix only | Filter Filter objects and folders | Show Live objects only

Name	Size	Type	Created	Storage class	Last modified	Public access	Version
netflix_titles.csv	3.4 MB	text/csv	Mar 10, 2025, 10:20:55 PM	Standard	Mar 10, 2025, 10:20:55 PM	Not public	–
persona.data	7.3 KB	application/octet-stream	Feb 26, 2025, 10:05:42 PM	Standard	Feb 26, 2025, 10:05:42 PM	Not public	–
salida/	–	Folder	–	–	–	–	–

Just now (2s) 2 Python

```python
netflix_movies_ruta = 'gs://dmc_dde_barb/archivos/netflix_titles.csv'
df_netflix = spark.read.format("CSV").option("header","true").option("delimiter",",").load(netflix_movies_ruta)
#df_with_schema.show()
#display(df_netflix)
df_netflix.show(20)
```

(2) Spark Jobs

df_netflix: pyspark.sql.dataframe.DataFrame = [show_id: string, type: string ... 10 more fields]

```
+-------+-------+--------------------+--------------------+--------------------+--------------------+------------------+------------+------+--------+--------------------+--------------------+
|show_id|   type|               title|            director|                cast|             country|        date_added|release_year|rating| duration|           listed_in|         description|
+-------+-------+--------------------+--------------------+--------------------+--------------------+------------------+------------+------+--------+--------------------+--------------------+
|     s1|  Movie|Dick Johnson Is Dead|     Kirsten Johnson|                NULL|       United States|September 25, 2021|        2020| PG-13|   90 min|       Documentaries|As her father nea...|
|     s2|TV Show|       Blood & Water|                NULL|Ama Qamata, Khosi...|        South Africa|September 24, 2021|        2021| TV-MA|2 Seasons|International TV ...|After crossing pa...|
|     s3|TV Show|           Ganglands|     Julien Leclercq|Sami Bouajila, Tr...|                NULL|September 24, 2021|        2021| TV-MA| 1 Season|Crime TV Shows, I...|To protect his fa...|
|     s4|TV Show|Jailbirds New Orl...|                NULL|                NULL|                NULL|September 24, 2021|        2021| TV-MA| 1 Season|Docuseries, Reali...|Feuds, flirtation...|
|     s5|TV Show|        Kota Factory|                NULL|Mayur More, Jiten...|               India|September 24, 2021|        2021| TV-MA|2 Seasons|International TV ...|In a city of coac...|
|     s6|TV Show|       Midnight Mass|       Mike Flanagan|Kate Siegel, Zach...|                NULL|September 24, 2021|        2021| TV-MA| 1 Season|TV Dramas, TV Hor...|The arrival of a ...|
|     s7|  Movie|My Little Pony: A...|Robert Cullen, Jo...|Vanessa Hudgens, ...|                NULL|September 24, 2021|        2021|    PG|   91 min|Children & Family...|Equestria's divid...|
|     s8|  Movie|             Sankofa|        Haile Gerima|Kofi Ghanaba, Oya...|United States, Gh...|September 24, 2021|        1993| TV-MA|  125 min|Dramas, Independe...|On a photo shoot ...|
|     s9|TV Show|The Great British...|     Andy Devonshire|Mel Giedroyc, Sue...|      United Kingdom|September 24, 2021|        2021| TV-14|9 Seasons|British TV Shows,...|A talented batch ...|
|    s10|  Movie|        The Starling|      Theodore Melfi|Melissa McCarthy,...|       United States|September 24, 2021|        2021| PG-13|  104 min|    Comedies, Dramas|A woman adjusting...|
|    s11|TV Show|Vendetta: Truth, ...|                NULL|                NULL|                NULL|September 24, 2021|        2021| TV-MA| 1 Season|Crime TV Shows, D...|"Sicily boasts a ...|
|    s12|TV Show|    Bangkok Breaking|   Kongkiat Komesiri|Sukollawat Kanaro...|                NULL|September 23, 2021|        2021| TV-MA| 1 Season|Crime TV Shows, I...|Struggling to ear...|
|    s13|  Movie|        Je Suis Karl| Christian Schwochow|Luna Wedler, Jann...|Germany, Czech Re...|September 23, 2021|        2021| TV-MA|  127 min|Dramas, Internati...|After most of her...|
|    s14|  Movie|Confessions of an...|       Bruno Garotti|Klara Castanho, L...|                NULL|September 22, 2021|        2021| TV-PG|   91 min|Children & Family...|When the clever b...|
|    s15|TV Show|Crime Stories: In...|                NULL|                NULL|                NULL|September 22, 2021|        2021| TV-MA| 1 Season|British TV Shows,...|Cameras following...|
|    s16|TV Show|   Dear White People|                NULL|Logan Browning, B...|       United States|September 22, 2021|        2021| TV-MA|4 Seasons|TV Comedies, TV D...|"Students of colo...|
|    s17|  Movie|Europe's Most Dan...|Pedro de Echave G...|                NULL|                NULL|September 22, 2021|        2020| TV-MA|   67 min|Documentaries, In...|Declassified docu...|
|    s18|TV Show|     Falsa identidad|                NULL|Luis Ernesto Fran...|              Mexico|September 22, 2021|        2020| TV-MA|2 Seasons|Crime TV Shows, S...|Strangers Diego a...|
```