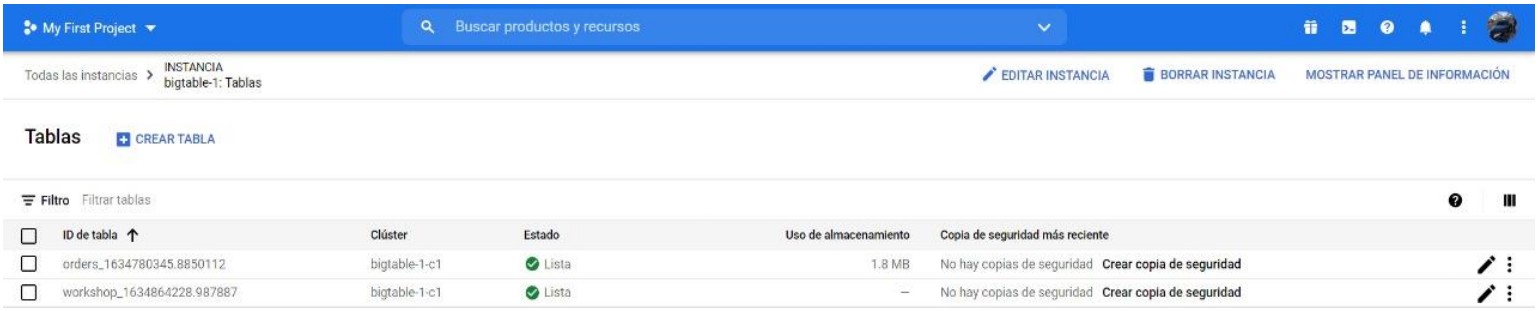
David Leonardo Barrera
David Esteban Zamora
Daniel Hurtado
Materia - Base De Datos 2
Docente Fabian Peña
2021 - II

Informe Taller 4

- **Creación y conexión con Big table**

```
[17]: import time
      import google.cloud
      from datetime import datetime as dt

      from google.cloud import bigtable
      from google.cloud.bigtable import column_family
      from google.cloud.bigtable import row_filters

[18]: INSTANCE_ID = 'bigtable-1'
      TABLE_ID = 'workshop_{}'.format(time.time())

[19]: TABLE_ID

[19]: 'workshop_1634864228.987887'

[21]: client = bigtable.Client.from_service_account_json('../../../fourth-silo-325712-d233370abdc0.json', admin = True)

[22]: print('Connecting to database instance')
      instance = client.instance(INSTANCE_ID)

      Connecting to database instance

[23]: print('Creating the {} table'.format(TABLE_ID))
      table = instance.table(TABLE_ID)

      if not table.exists():
          table.create()
      else:
          print("ERROR: Table {} already exists".format(TABLE_ID))

      Creating the workshop_1634864228.987887 table
```

- **Creamos nuestro servicio propio de Big table en Google Cloud.**



David Leonardo Barrera
David Esteban Zamora
Daniel Hurtado
Materia - Base De Datos 2
Docente Fabian Peña
2021 - II

UNIVERSIDAD EL BOSQUE

- **Carga de los csv a BigTable**

```
df = pd.DataFrame([[key, plant1_ws[key]] for key in plant1_ws.keys()], columns=['Columnas', 'Datos'])
df
```

[01] ✓ 0.5s

	Columnas	Datos
0	DATE_TIME	0 2020-05-15 00:00:00 1 2020-05-...
1	PLANT_ID	0 4136001 1 4136001 2 413...
2	SOURCE_KEY	0 4UPUqMRk7TRMgml 1 81aHJ1q11NBP...
3	DC_POWER	0 0.0 1 0.0 2 0.0 3 ...
4	AC_POWER	0 0.0 1 0.0 2 0.0 3 ...
5	DAILY_YIELD	0 9425.000000 1 0.000000 2 ...
6	TOTAL_YIELD	0 2.429011e+06 1 1.215279e+09 2 ...

```
df = pd.DataFrame([[key, plant2_ws[key]] for key in plant2_ws.keys()], columns=['Columnas', 'Datos'])
df
```

[00] ✓ 0.6s

	Columnas	Datos
0	DATE_TIME	0 2020-05-15 00:00:00 1 2020-05-15...
1	PLANT_ID	0 4136001 1 4136001 2 413600...
2	SOURCE_KEY	0 iq8k7ZNt4Mwm3w0 1 iq8k7ZNt4Mwm3w...
3	AMBIENT_TEMPERATURE	0 27.004764 1 26.880811 2 26...
4	MODULE_TEMPERATURE	0 25.060789 1 24.421869 2 24...
5	IRRADIATION	0 0.0 1 0.0 2 0.0 3 0....

```
df = pd.DataFrame([[key, plant1_pg[key]] for key in plant1_pg.keys()], columns=['Columnas', 'Datos'])
df
```

[99] ✓ 0.1s

	Columnas	Datos
0	DATE_TIME	0 2020-05-15 00:00:00 1 2020-05-15...
1	PLANT_ID	0 4136001 1 4136001 2 413600...
2	SOURCE_KEY	0 iq8k7ZNt4Mwm3w0 1 iq8k7ZNt4Mwm3w...
3	AMBIENT_TEMPERATURE	0 27.004764 1 26.880811 2 26...
4	MODULE_TEMPERATURE	0 25.060789 1 24.421869 2 24...
5	IRRADIATION	0 0.0 1 0.0 2 0.0 3 0....

```
df = pd.DataFrame([[key, plant2_pg[key]] for key in plant2_pg.keys()], columns=['Columnas', 'Datos'])
df
```

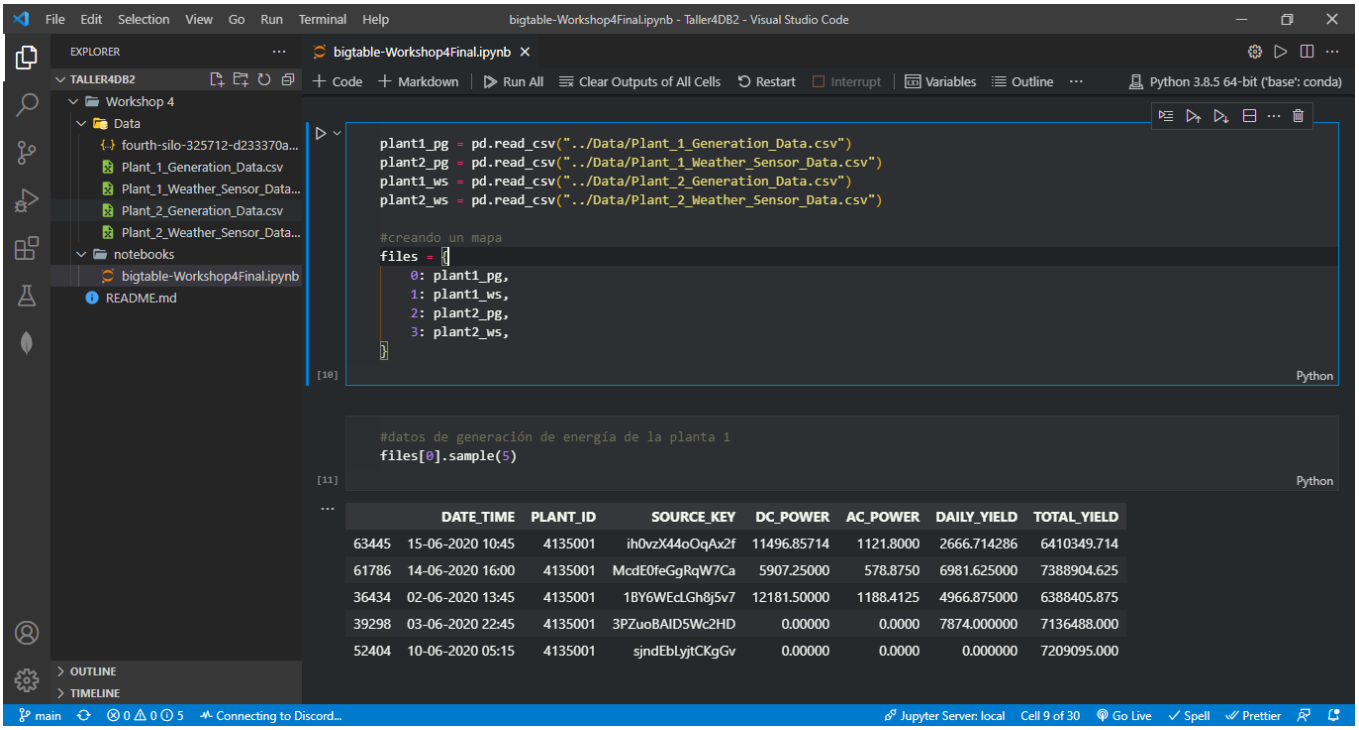
[102] ✓ 0.4s

	Columnas	Datos
0	DATE_TIME	0 2020-05-15 00:00:00 1 2020-05-15...
1	PLANT_ID	0 4135001 1 4135001 2 413500...
2	SOURCE_KEY	0 HmiyD2TTLFNqkNe 1 HmiyD2TTLFNqkN...
3	AMBIENT_TEMPERATURE	0 25.184316 1 25.084589 2 24...
4	MODULE_TEMPERATURE	0 22.857507 1 22.761668 2 22...
5	IRRADIATION	0 0.0 1 0.0 2 0.0 3 0....

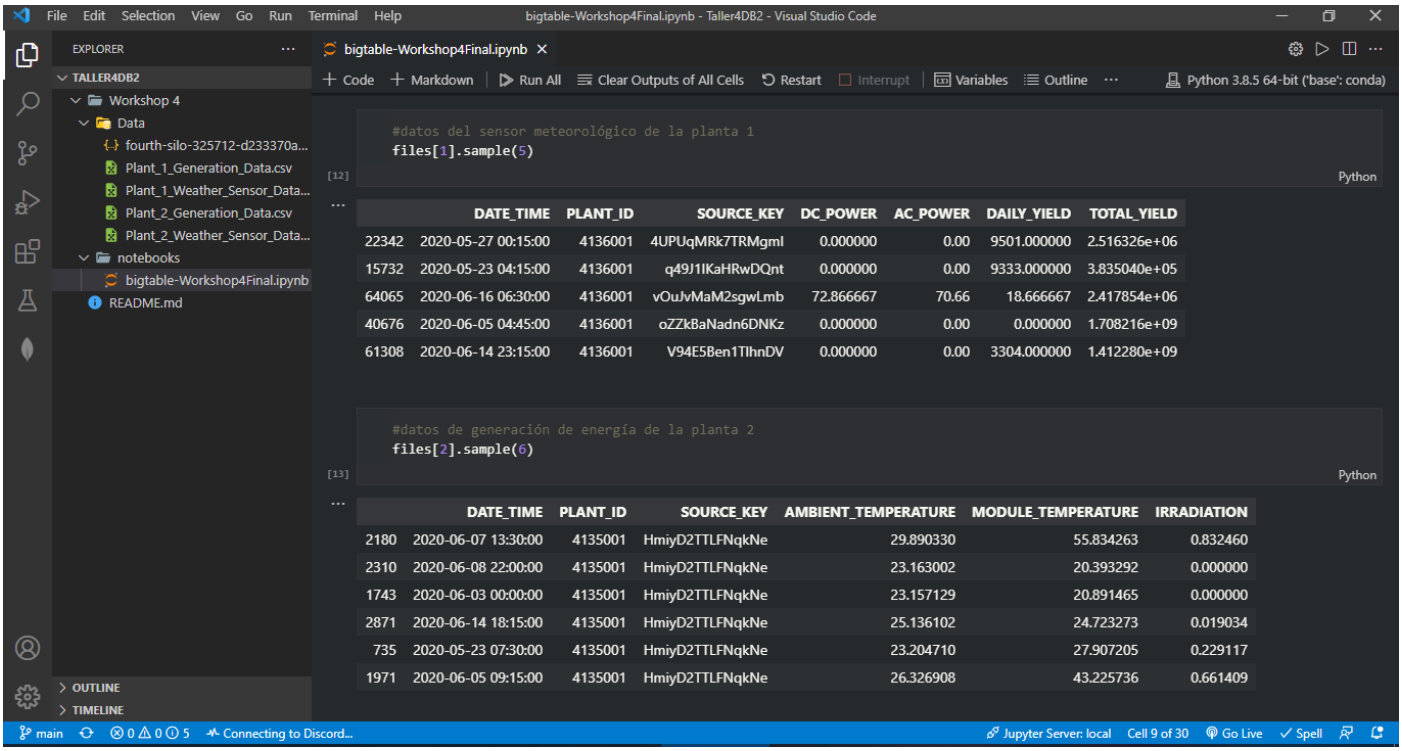
David Leonardo Barrera
David Esteban Zamora
Daniel Hurtado
Materia - Base De Datos 2
Docente Fabian Peña
2021 - II

UNIVERSIDAD EL BOSQUE

- **Utilización de pandas y proceso de mostrar los 4 csv**



	DATE_TIME	PLANT_ID	SOURCE_KEY	DC_POWER	AC_POWER	DAILY_YIELD	TOTAL_YIELD
63445	15-06-2020 10:45	4135001	ih0vzX44oOqAx2f	11496.85714	1121.8000	2666.714286	6410349.714
61786	14-06-2020 16:00	4135001	McdE0feGgRqW7Ca	5907.25000	578.8750	6981.625000	7388904.625
36434	02-06-2020 13:45	4135001	1BY6WEcLGh8j5v7	12181.50000	1188.4125	4966.875000	6388405.875
39298	03-06-2020 22:45	4135001	3PZuoBAID5Wc2HD	0.00000	0.0000	7874.000000	7136488.000
52404	10-06-2020 05:15	4135001	sjndEbLyjtCKgGv	0.00000	0.0000	0.000000	7209095.000

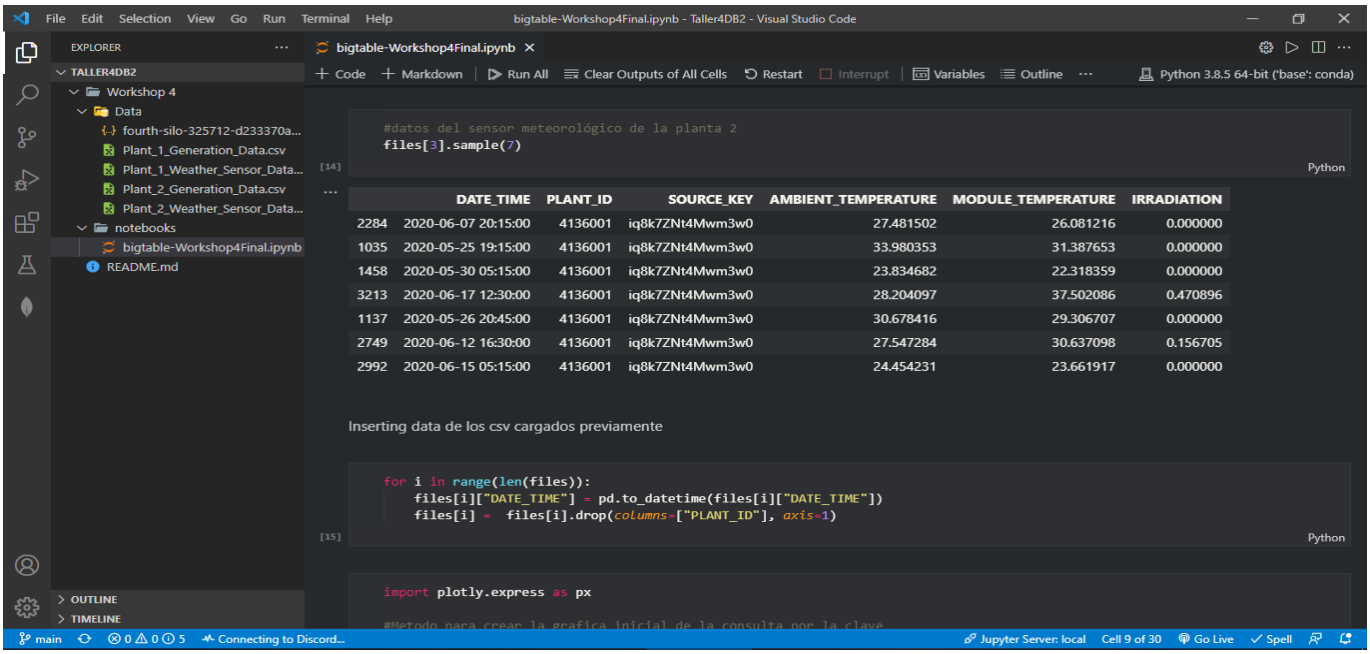


	DATE_TIME	PLANT_ID	SOURCE_KEY	DC_POWER	AC_POWER	DAILY_YIELD	TOTAL_YIELD
22342	2020-05-27 00:15:00	4136001	4UPUqMRk7TRMgml	0.000000	0.00	9501.000000	2.516326e+06
15732	2020-05-23 04:15:00	4136001	q49J1IKaHRwDQnt	0.000000	0.00	9333.000000	3.835040e+05
64065	2020-06-16 06:30:00	4136001	vOuJvMaM2sgwLmb	72.866667	70.66	18.666667	2.417854e+06
40676	2020-06-05 04:45:00	4136001	oZZkBaNadn6DNKz	0.000000	0.00	0.000000	1.708216e+09
61308	2020-06-14 23:15:00	4136001	V94E5Ben1TlhnDV	0.000000	0.00	3304.000000	1.412280e+09

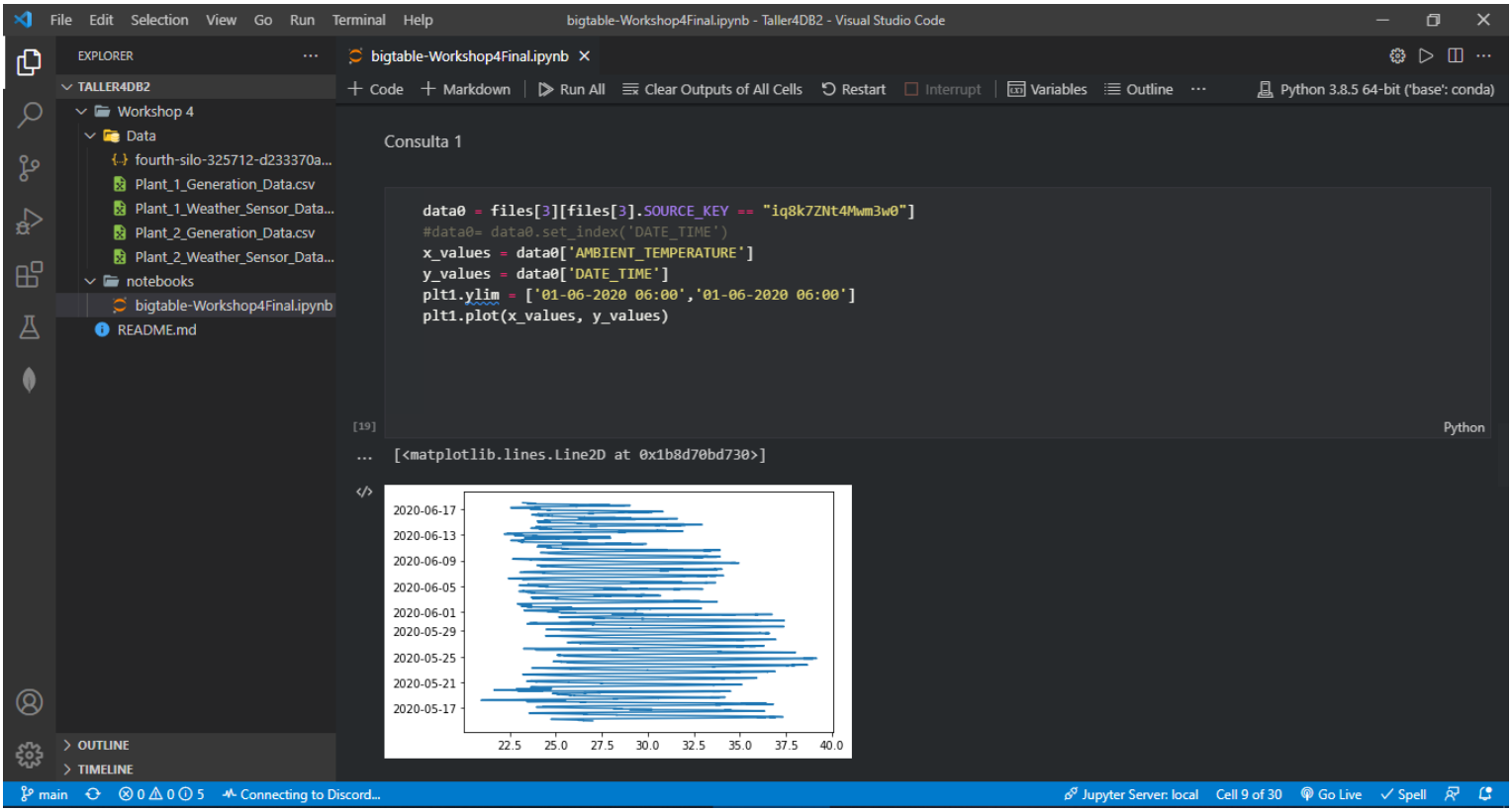
	DATE_TIME	PLANT_ID	SOURCE_KEY	AMBIENT_TEMPERATURE	MODULE_TEMPERATURE	IRRADIATION
2180	2020-06-07 13:30:00	4135001	HmiyD2TTLFNqkNe	29.890330	55.834263	0.832460
2310	2020-06-08 22:00:00	4135001	HmiyD2TTLFNqkNe	23.163002	20.393292	0.000000
1743	2020-06-03 00:00:00	4135001	HmiyD2TTLFNqkNe	23.157129	20.891465	0.000000
2871	2020-06-14 18:15:00	4135001	HmiyD2TTLFNqkNe	25.136102	24.723273	0.019034
735	2020-05-23 07:30:00	4135001	HmiyD2TTLFNqkNe	23.204710	27.907205	0.229117
1971	2020-06-05 09:15:00	4135001	HmiyD2TTLFNqkNe	26.326908	43.225736	0.661409

David Leonardo Barrera
David Esteban Zamora
Daniel Hurtado
Materia - Base De Datos 2
Docente Fabian Peña
2021 - II

UNIVERSIDAD EL BOSQUE



- **¿Cuáles fueron las diferentes medidas de temperatura ambiente para la planta 2 con fecha del 1 de junio desde las 6 de la mañana al mediodía?**



David Leonardo Barrera
David Esteban Zamora
Daniel Hurtado
Materia - Base De Datos 2
Docente Fabian Peña
2021 - II

UNIVERSIDAD EL BOSQUE

- ***Para la fuente identificada con la clave adLQvlD726eNBSB de la planta 1, ¿cuánta potencia había generado para las 2:15 PM del 15 de mayo?***

- ***Valor 12.3191k***