

databricks Pyspark join types and dataframes Notebook 2023-

(<https://databricks.com>)

09-04 11:03:40

root

```
-- emp_id: long (nullable = true)
-- name: string (nullable = true)
-- superior_emp_id: long (nullable = true)
-- year_joined: string (nullable = true)
-- emp_dept_id: string (nullable = true)
-- gender: string (nullable = true)
-- salary: long (nullable = true)
```

```
+-----+-----+-----+-----+-----+-----+
|emp_id|name |superior_emp_id|year_joined|emp_dept_id|gender|salary|
+-----+-----+-----+-----+-----+-----+
|1      |Smith|-1              |2018       |10          |M     |3000   |
|2      |Rose |1              |2010       |20          |M     |4000   |
|4      |Jones|2              |2005       |10          |F     |2000   |
|5      |Brown|2              |2016       |40          |      |-1     |
|6      |Brown|2              |2010       |50          |      |-1     |
+-----+-----+-----+-----+-----+-----+
```

root

```
-- dept_name: string (nullable = true)
-- dept_id: long (nullable = true)
```

```
+-----+-----+
```

dept_name	dept_id
Finance	10
Marketing	20
Sales	30
IT	40

emp_id	name	superior_emp_id	year_joined	emp_dept_id	gender	salary	dept_name	dept_id
1	Smith	-1	2018	10	M	3000	Finance	10
4	Jones	2	2005	10	F	2000	Finance	10
2	Rose	1	2010	20	M	4000	Marketing	20
5	Brown	2	2016	40		-1	IT	40

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
--+
|emp_id|name |superior_emp_id|year_joined|emp_dept_id|gender|salary|dept_name|dept_id|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
--+
|1      |Smith|-1              |2018       |10         |M     |3000  |Finance  |10
|
|4      |Jones|2              |2005       |10         |F     |2000  |Finance  |10
|
|2      |Rose |1              |2010       |20         |M     |4000  |Marketing|20
|
|null   |null |null           |null       |null       |null  |null  |Sales    |30
|
|5      |Brown|2              |2016       |40         |      |-1     |IT       |40
|
|6      |Brown|2              |2010       |50         |      |-1     |null     |null
|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
--+

```

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|emp_id|name |superior_emp_id|year_joined|emp_dept_id|gender|salary|dept_name|dept_id|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|1      |Smith|-1              |2018       |10         |M     |3000  |Finance  |10
|2      |Rose |1              |2010       |20         |M     |4000  |Marketing|20
|4      |Jones|2              |2005       |10         |F     |2000  |Finance  |10
|5      |Brown|2              |2016       |40         |      |-1     |IT       |40
|6      |Brown|2              |2010       |50         |      |-1     |null     |null
+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|emp_id|name |superior_emp_id|year_joined|emp_dept_id|gender|salary|dept_name|dept_id|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|1      |Smith|-1              |2018       |10         |M     |3000  |Finance  |10
|2      |Rose |1              |2010       |20         |M     |4000  |Marketing|20
|4      |Jones|2              |2005       |10         |F     |2000  |Finance  |10

```

5	Brown	2	2016	40		-1	IT	40	
6	Brown	2	2010	50		-1	null	null	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+

+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
emp_id	name	superior_emp_id	year_joined	emp_dept_id	gender	salary	dept_name	dept_id	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
4	Jones	2	2005	10	F	2000	Finance	10	
1	Smith	-1	2018	10	M	3000	Finance	10	
2	Rose	1	2010	20	M	4000	Marketing	20	
null	null	null	null	null	null	null	Sales	30	
5	Brown	2	2016	40		-1	IT	40	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+

+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
emp_id	name	superior_emp_id	year_joined	emp_dept_id	gender	salary	dept_name	dept_id	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
4	Jones	2	2005	10	F	2000	Finance	10	
1	Smith	-1	2018	10	M	3000	Finance	10	
2	Rose	1	2010	20	M	4000	Marketing	20	
null	null	null	null	null	null	null	Sales	30	
5	Brown	2	2016	40		-1	IT	40	
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+

+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
emp_id	name	superior_emp_id	year_joined	emp_dept_id	gender	salary			
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+

1	Smith	-1	2018	10	M	3000	
4	Jones	2	2005	10	F	2000	
2	Rose	1	2010	20	M	4000	
5	Brown	2	2016	40		-1	

+-----+-----+-----+-----+-----+-----+-----+

emp_id	name	superior_emp_id	year_joined	emp_dept_id	gender	salary
6	Brown	2	2010	50		-1

+-----+-----+-----+-----+-----+-----+-----+

emp_id	name	superior_emp_id	superior.emp_name
2	Rose	1	Smith
4	Jones	2	Rose
5	Brown	2	Rose
6	Brown	2	Rose

+-----+-----+-----+-----+

```
+-----+-----+-----+-----+-----+-----+-----+-----+
|emp_id|name |superior_emp_id|year_joined|emp_dept_id|gender|salary|dept_name|dept_id|
+-----+-----+-----+-----+-----+-----+-----+-----+
|1      |Smith|-1              |2018       |10         |M     |3000  |Finance  |10      |
|4      |Jones|2              |2005       |10         |F     |2000  |Finance  |10      |
|2      |Rose |1              |2010       |20         |M     |4000  |Marketing|20      |
|5      |Brown|2              |2016       |40         |      |-1     |IT       |40      |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
|emp_id|name |superior_emp_id|year_joined|emp_dept_id|gender|salary|dept_name|dept_id|
+-----+-----+-----+-----+-----+-----+-----+-----+
|1      |Smith|-1              |2018       |10         |M     |3000  |Finance  |10      |
|4      |Jones|2              |2005       |10         |F     |2000  |Finance  |10      |
|2      |Rose |1              |2010       |20         |M     |4000  |Marketing|20      |
|5      |Brown|2              |2016       |40         |      |-1     |IT       |40      |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

```
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   |3988   |
|Jeff         |Marketing |3000   |
|Kumar        |Marketing |2000   |
|Saif         |Sales     |4100   |
+-----+-----+-----+
```

```
Disnict count : 9
```

```
+-----+-----+-----+
|employee_name|department|salary|
+-----+-----+-----+
|James        |Sales     |3000   |
|Michael      |Sales     |4600   |
|Robert       |Sales     |4100   |
|Maria        |Finance   |3000   |
|Scott        |Finance   |3300   |
|Jen          |Finance   |3988   |
|Jeff         |Marketing |3000   |
|Kumar        |Marketing |2000   |
|Saif         |Sales     |4100   |
+-----+-----+-----+
```

Disnict count : 9

employee_name	department	salary
James	Sales	3000
Michael	Sales	4600
Robert	Sales	4100
Maria	Finance	3000
Scott	Finance	3300
Jen	Finance	3988
Jeff	Marketing	3000
Kumar	Marketing	2000
Saif	Sales	4100

Disnict count Selected items: 8

employee_name	department	salary
Maria	Finance	3000
Scott	Finance	3300
Jen	Finance	3988
Kumar	Marketing	2000
Jeff	Marketing	3000
James	Sales	3000
Robert	Sales	4100
Michael	Sales	4600


```
+---+-----+
|id |value                                     |
+---+-----+
|1  |{"Zipcode" : 704,"ZipcodeType" : "STANDARD", "City":"PARC", "State": "PR"}|
+---+-----+
```