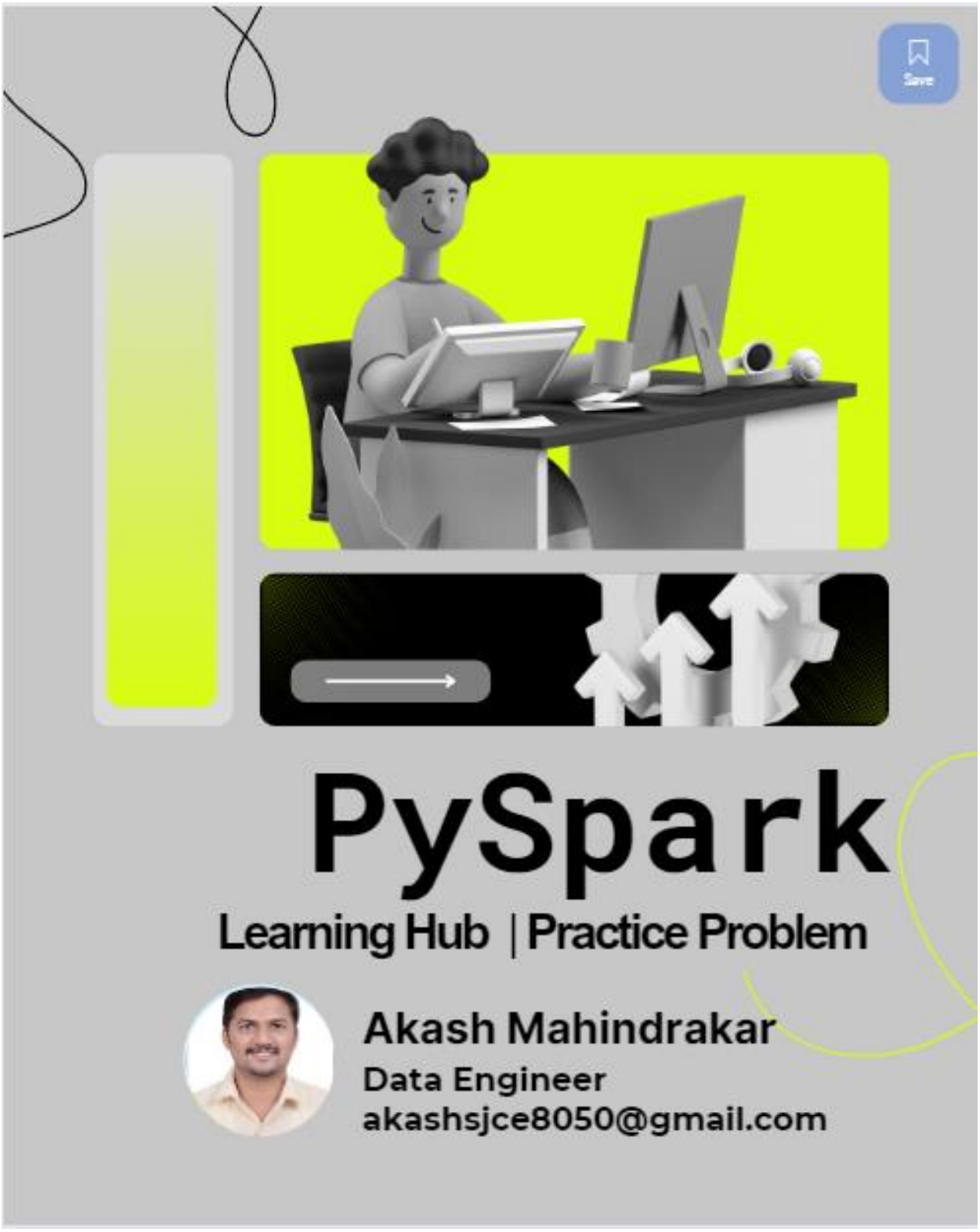
PYSPARK LEARNING HUB : DAY - 20



Step - 1 : Problem Statement

20_Date in pyspark

Write a pyspark code perform below function

- Get the lowest "Salary" from EmployeeDetail table.
- Show "JoiningDate" in "dd mmm yyyy" format, ex- "15 Feb 2013"
- Show "JoiningDate" in "yyyy/mm/dd" format, ex- "2013/02/15"

Difficult Level : EASY

DataFrame:

```
data = [
        [1, "Vikas", "Ahlawat", 600000.0, "2013-02-15 11:16:28.290", "IT", "Male"],
        [2, "nikita", "Jain", 530000.0, "2014-01-09 17:31:07.793", "HR", "Female"],
        [3, "Ashish", "Kumar", 1000000.0, "2014-01-09 10:05:07.793", "IT", "Male"],
        [4, "Nikhil", "Sharma", 480000.0, "2014-01-09 09:00:07.793", "HR", "Male"],
        [5, "anish", "kadian", 500000.0, "2014-01-09 09:31:07.793", "Payroll", "Male"],
]
# Create a schema for the DataFrame
schema = StructType([
        StructField("EmployeeID", IntegerType(), True),
        StructField("First_Name", StringType(), True),
        StructField("Last_Name", StringType(), True),
        StructField("Salary", DoubleType(), True),
        StructField("Joining_Date", StringType(), True),
        StructField("Department", StringType(), True),
        StructField("Gender", StringType(), True)
])
```

Step - 2 : Writing the pyspark code to solve

```
# Creating Spark Session
from pyspark.sql import SparkSession
from pyspark.sql.types import
StructType,StructField,IntegerType,StringType

#creating spark session
spark = SparkSession. \
builder. \
config('spark.shuffle.useOldFetchProtocol', 'true'). \
config('spark.ui.port','0'). \
config("spark.sql.warehouse.dir", "/user/itv008042/warehouse"). \
enableHiveSupport(). \
master('yarn'). \
getOrCreate()

# Create a list of rows from the image
data = [
        [1, "Vikas", "Ahlawat", 600000.0, "2013-02-15 11:16:28.290", "IT", "Male"],
        [2, "nikita", "Jain", 530000.0, "2014-01-09 17:31:07.793", "HR", "Female"],
        [3, "Ashish", "Kumar", 1000000.0, "2014-01-09 10:05:07.793", "IT", "Male"],
        [4, "Nikhil", "Sharma", 480000.0, "2014-01-09 09:00:07.793", "HR", "Male"],
        [5, "anish", "kadian", 500000.0, "2014-01-09 09:31:07.793", "Payroll", "Male"],
]

# Create a schema for the DataFrame
schema = StructType([
        StructField("EmployeeID", IntegerType(), True),
        StructField("First_Name", StringType(), True),
        StructField("Last_Name", StringType(), True),
        StructField("Salary", DoubleType(), True),
        StructField("Joining_Date", StringType(), True),
        StructField("Department", StringType(), True),
        StructField("Gender", StringType(), True)
])

emp_df=spark.createDataFrame(data,schema)
```

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```
+----------+----------+---------+---------+--------------------+----------+------+
|EmployeeID|First_Name|Last_Name|   Salary|        Joining_Date|Department|Gender|
+----------+----------+---------+---------+--------------------+----------+------+
|         1|     Vikas|  Ahlawat| 600000.0|2013-02-15 11:16:...|        IT|  Male|
|         2|    nikita|     Jain| 530000.0|2014-01-09 17:31:...|        HR|Female|
|         3|    Ashish|    Kumar|1000000.0|2014-01-09 10:05:...|        IT|  Male|
|         4|    Nikhil|   Sharma| 480000.0|2014-01-09 09:00:...|        HR|  Male|
|         5|     anish|   kadian| 500000.0|2014-01-09 09:31:...|   Payroll|  Male|
+----------+----------+---------+---------+--------------------+----------+------+
```

```
# 17). Get the lowest "Salary" from EmployeeDetail table.
emp_df.agg(min("Salary")).show()

#18)Show "JoiningDate" in "dd mmm yyyy" format, ex- "15 Feb 2013"

formatted_df = emp_df.withColumn("Joining_Date", date_format(to_timestamp(col("Joining_Date")), "dd MMM yyyy"))
formatted_df.show()

# 19)Show "JoiningDate" in "yyyy/mm/dd" format, ex- "2013/02/15"

formatted_df = emp_df.withColumn("Joining_Date", date_format(to_timestamp(col("Joining_Date")), "yyyy/mm/dd"))
formatted_df.show()
```

```
+-----------+
|min(Salary)|
+-----------+
|   480000.0|
+-----------+
```

```
+----------+----------+---------+---------+------------+----------+------+
|EmployeeID|First_Name|Last_Name|   Salary|Joining_Date|Department|Gender|
+----------+----------+---------+---------+------------+----------+------+
|         1|     Vikas|  Ahlawat| 600000.0| 15 Feb 2013|        IT|  Male|
|         2|    nikita|     Jain| 530000.0| 09 Jan 2014|        HR|Female|
|         3|    Ashish|    Kumar|1000000.0| 09 Jan 2014|        IT|  Male|
|         4|    Nikhil|   Sharma| 480000.0| 09 Jan 2014|        HR|  Male|
|         5|     anish|   kadian| 500000.0| 09 Jan 2014|   Payroll|  Male|
+----------+----------+---------+---------+------------+----------+------+
```

```
+----------+----------+---------+---------+------------+----------+------+
|EmployeeID|First_Name|Last_Name|   Salary|Joining_Date|Department|Gender|
+----------+----------+---------+---------+------------+----------+------+
|         1|     Vikas|  Ahlawat| 600000.0|  2013/16/15|        IT|  Male|
|         2|    nikita|     Jain| 530000.0|  2014/31/09|        HR|Female|
|         3|    Ashish|    Kumar|1000000.0|  2014/05/09|        IT|  Male|
|         4|    Nikhil|   Sharma| 480000.0|  2014/00/09|        HR|  Male|
|         5|     anish|   kadian| 500000.0|  2014/31/09|   Payroll|  Male|
+----------+----------+---------+---------+------------+----------+------+
```

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Save

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