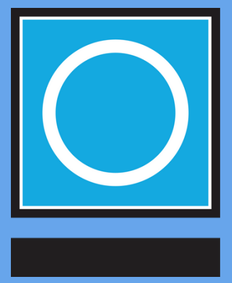
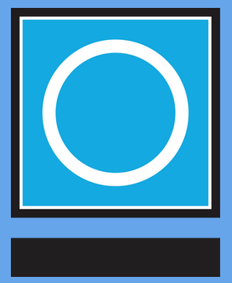
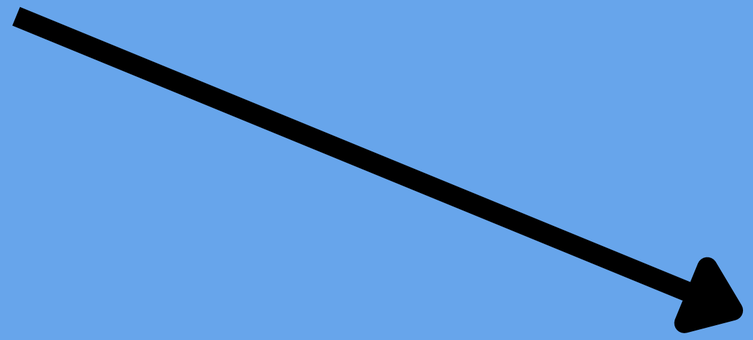


PYSPARK FOR AWS GLUE



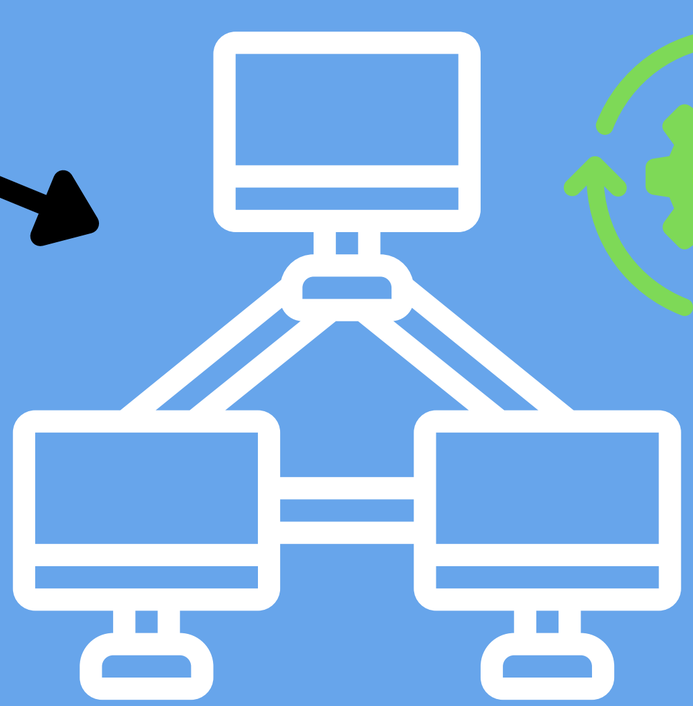
WHAT JUST HAPPENED?



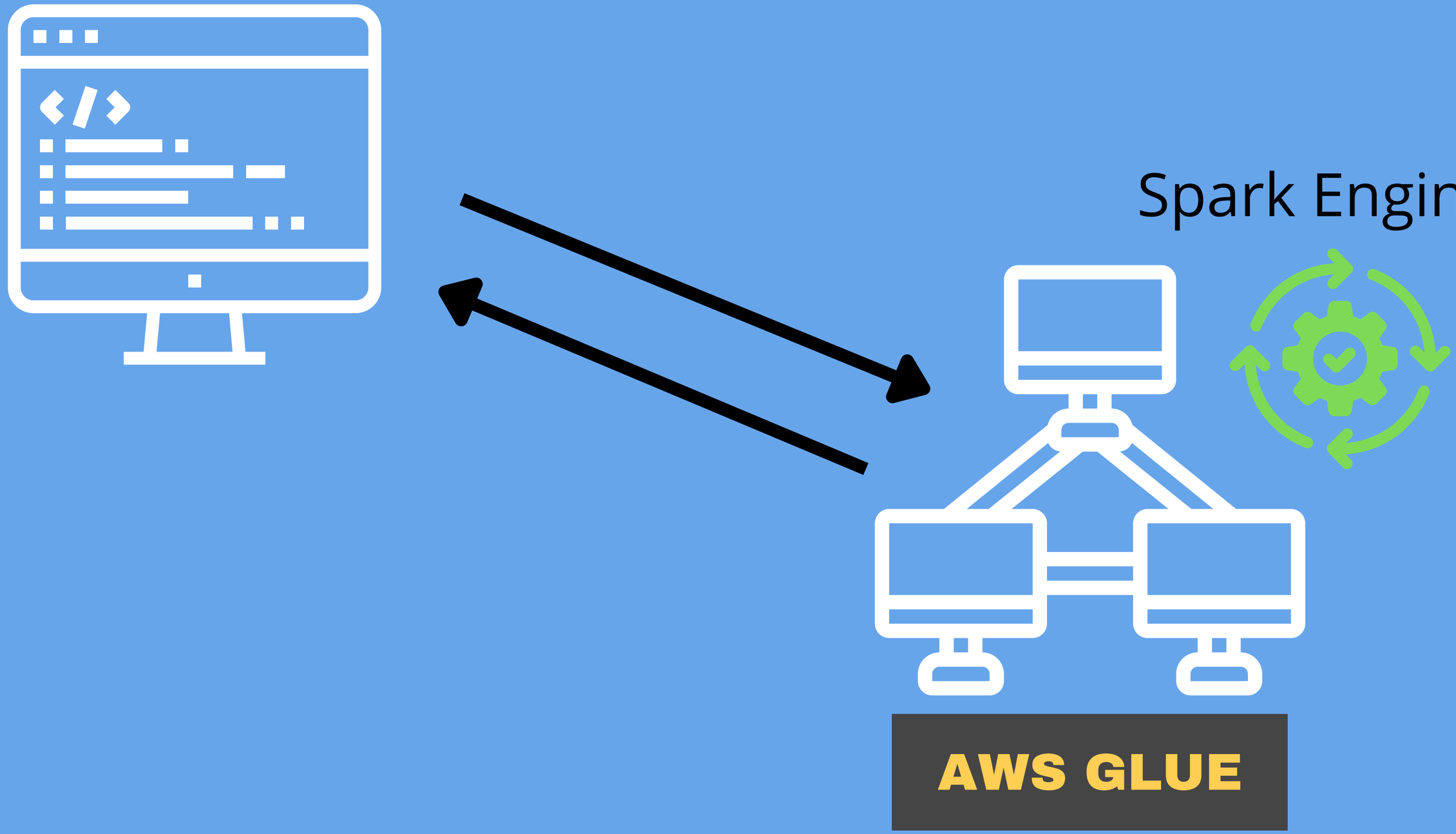
AWS GLUE


AWS GLUE

Spark Engine



AWS GLUE


Spark Engine
AWS GLUE

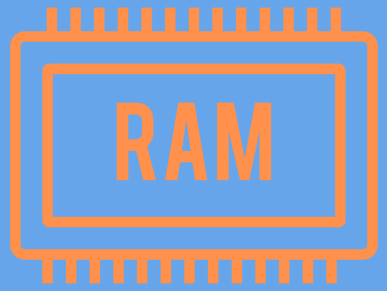
GLUE INTERACTIVE SESSIONS

- A programmatic and visual interface for building and testing extract, transform, and load (ETL) scripts for data preparation.
- Interactive sessions run Apache Spark analytics applications and provide on-demand access to a remote Spark runtime environment.
- AWS Glue transparently manages serverless Spark for these interactive sessions.

FUNDAMENTALS OF SPARK FOR GLUE

Apache Spark is an open-source in memory distributed processing system used for big data workloads

FUNDAMENTALS OF SPARK FOR GLUE



Apache Spark is an open-source **in memory** distributed processing system used for big data workloads

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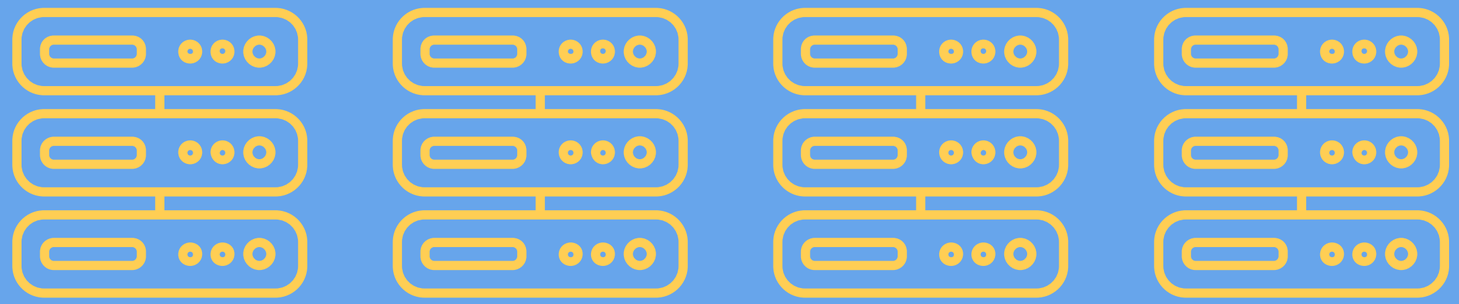

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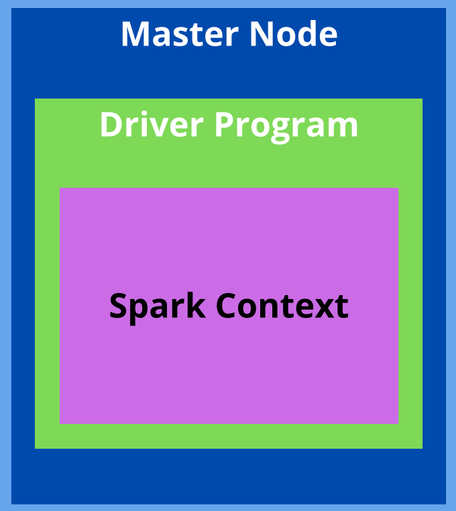

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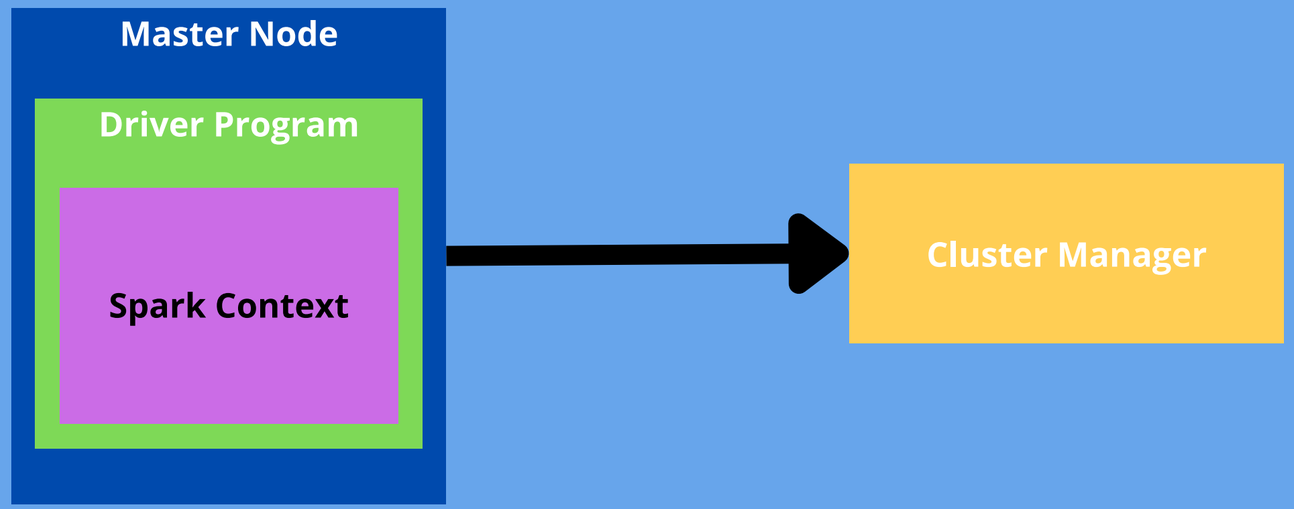

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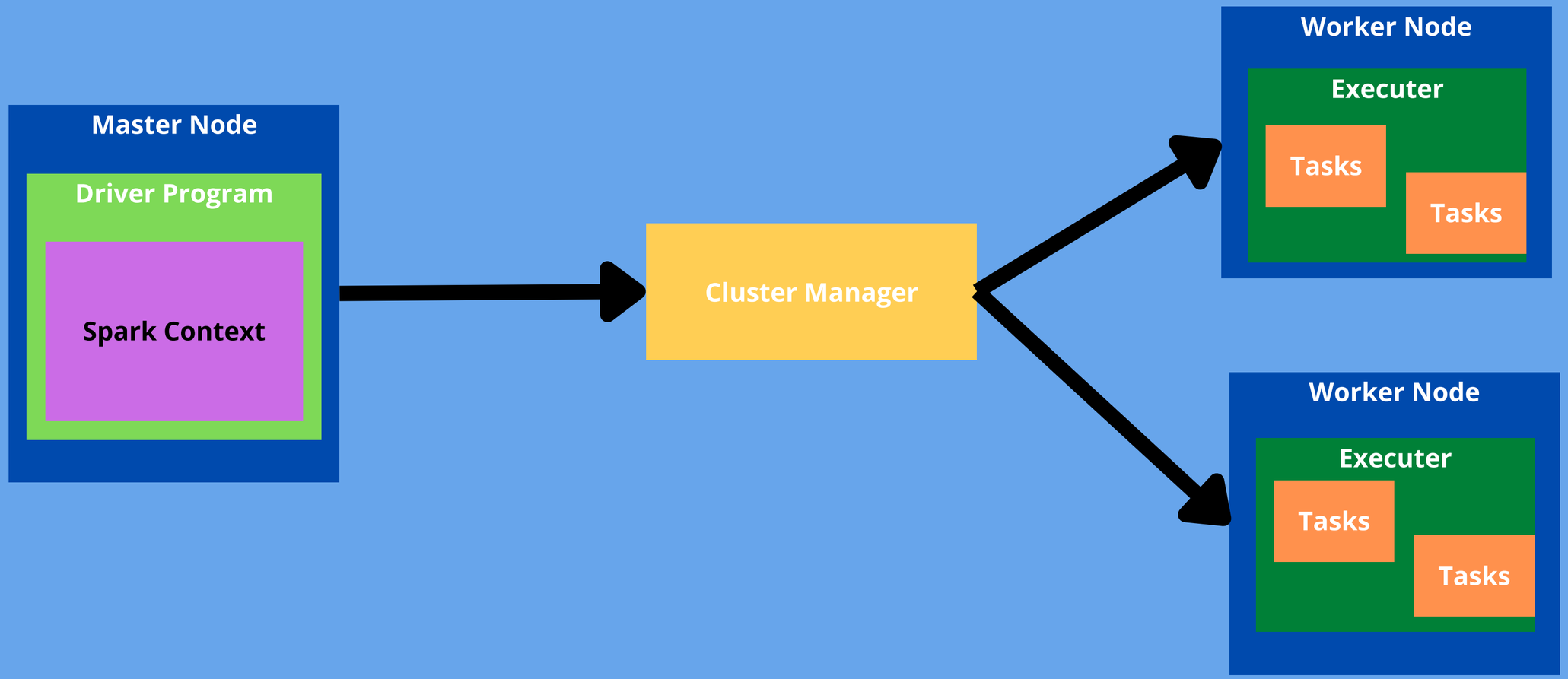

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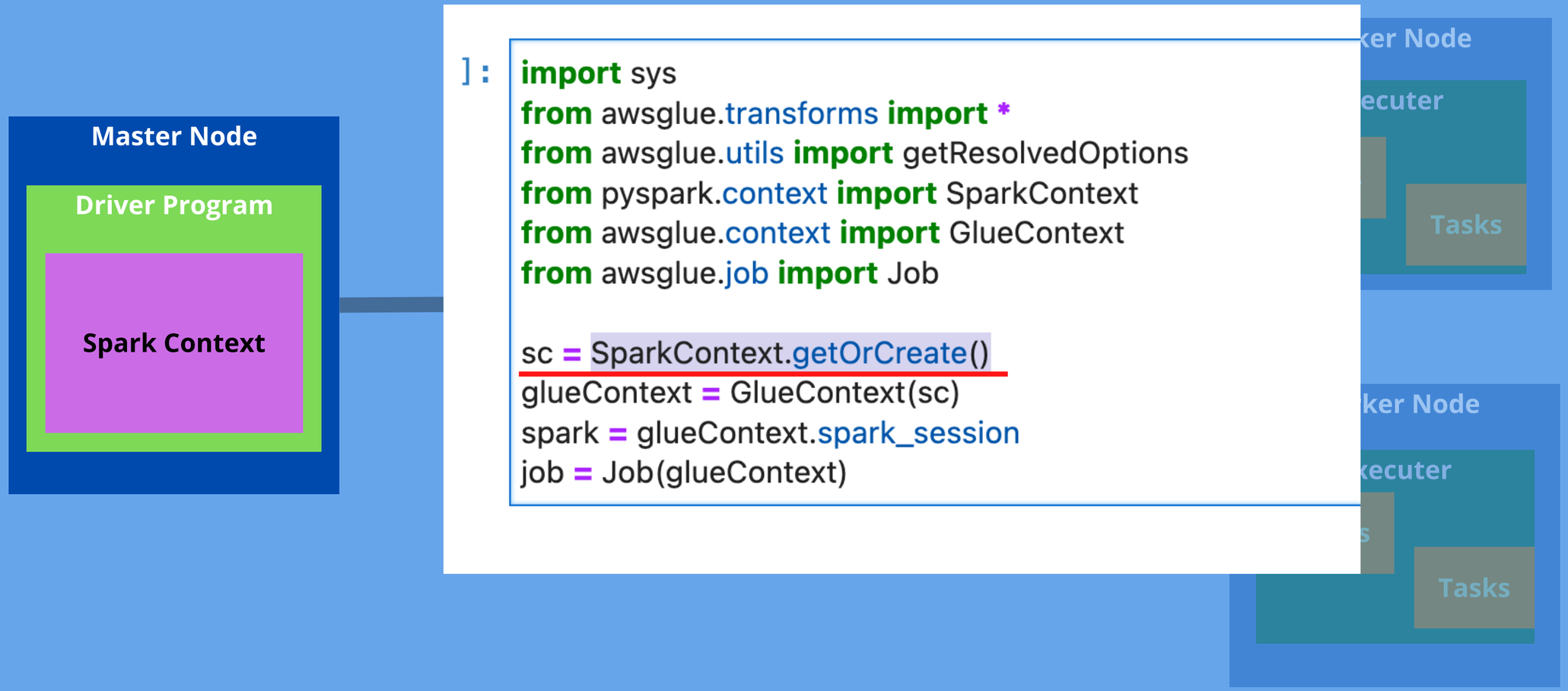
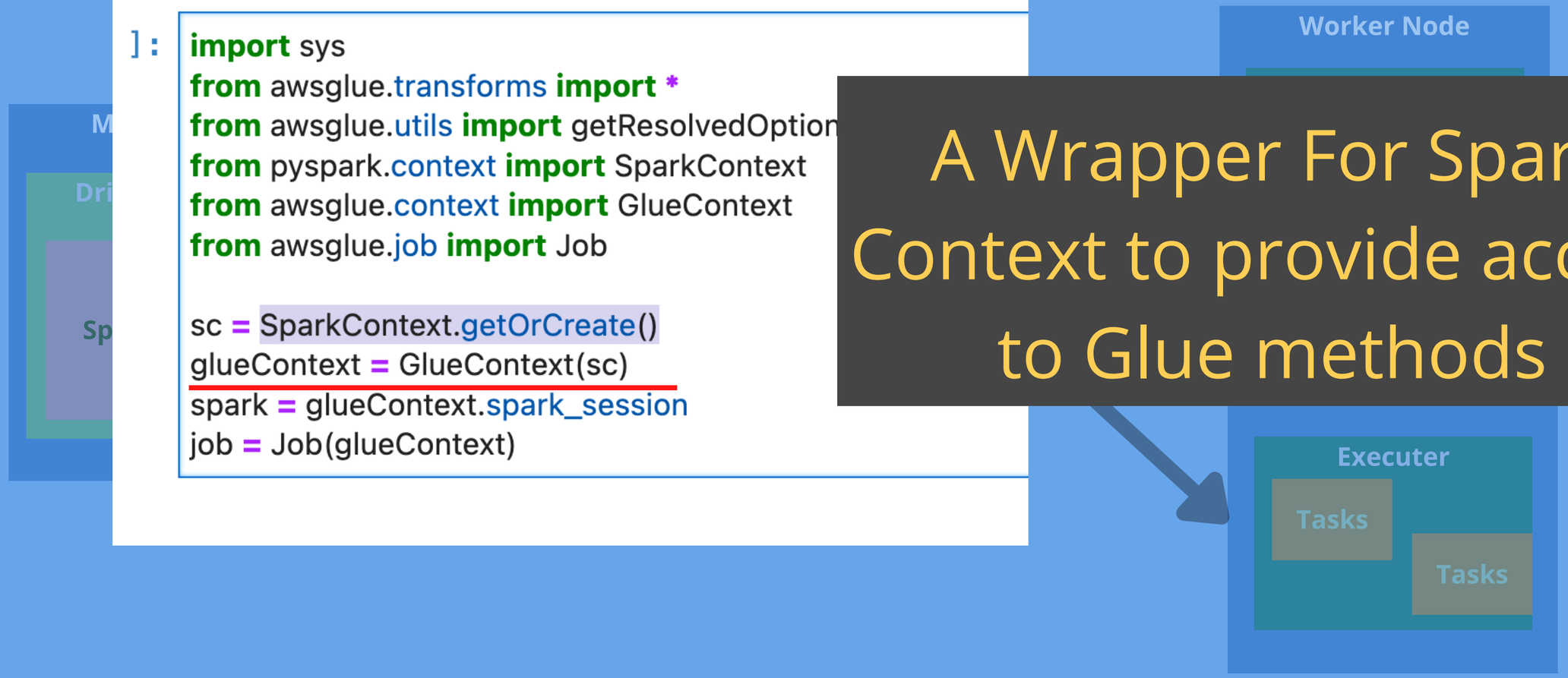


FUNDAMENTALS OF SPARK FOR GLUE

```
]:  import sys
    from awsglue.transforms import *
    from awsglue.utils import getResolvedOption
    from pyspark.context import SparkContext
    from awsglue.context import GlueContext
    from awsglue.job import Job

    sc = SparkContext.getOrCreate()
    glueContext = GlueContext(sc)
    spark = glueContext.spark_session
    job = Job(glueContext)
```

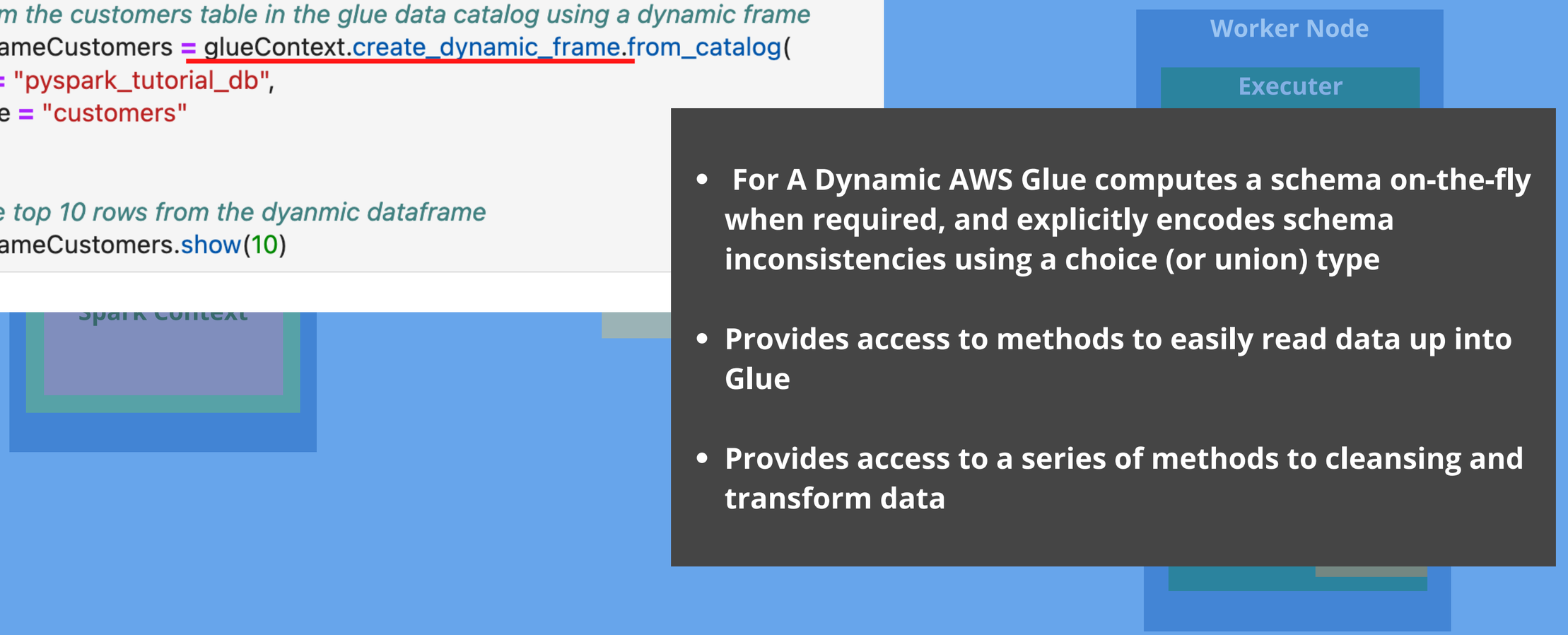
A Wrapper For Spark Context to provide access to Glue methods



GLUE DYNAMIC FRAME

```
# Read from the customers table in the glue data catalog using a dynamic frame
dynamicFrameCustomers = glueContext.create_dynamic_frame.from_catalog(
database = "pyspark_tutorial_db",
table_name = "customers"
)

# Show the top 10 rows from the dyanmic dataframe
dynamicFrameCustomers.show(10)
```



- For A Dynamic AWS Glue computes a schema on-the-fly when required, and explicitly encodes schema inconsistencies using a choice (or union) type
- Provides access to methods to easily read data up into Glue
- Provides access to a series of methods to cleansing and transform data

https://docs.aws.amazon.com/glue/latest/dg/aws-glue-api-crawler-pyspark-extensions-dynamic-frame.html

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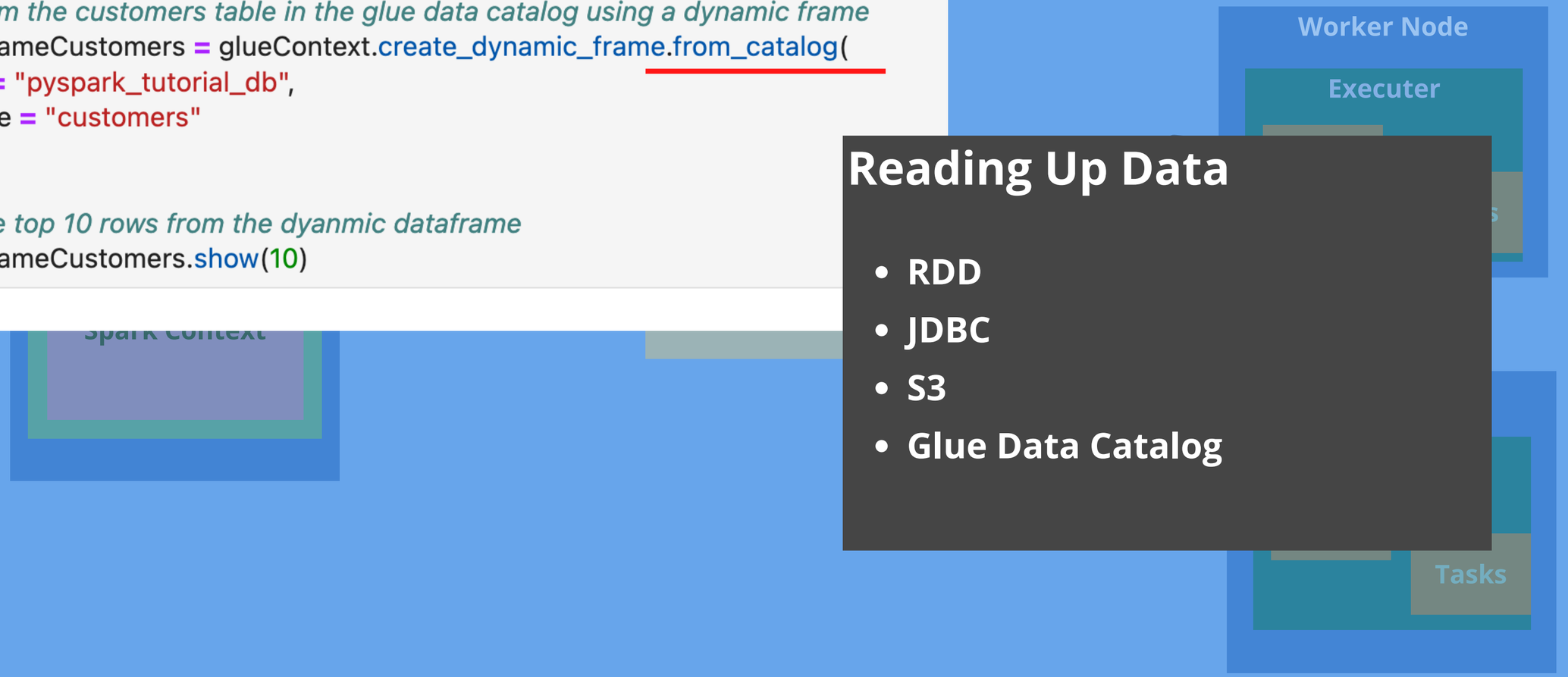

Reading Up Data

- RDD
- JDBC
- S3
- Glue Data Catalog

https://docs.aws.amazon.com/glue/latest/dg/aws-glue-api-crawler-pyspark-extensions-dynamic-frame-reader.html

SPARK DATAFRAME

```
# Dynamic Frame to Spark DataFrame
sparkDf = dynamicFrameCustomers.toDF()

#show spark DF
sparkDf.show()
```

Spark Context

```
+----------+----------+-----------+--------------------+
|customerid| firstname|   lastname|            fullname|
+----------+----------+-----------+--------------------+
|       293| Catherine|       Abel|      Catherine Abel|
|       295|       Kim|Abercrombie|      Kim Abercrombie|
|       297|  Humberto|    Acevedo|    Humberto Acevedo|
|       291|   Gustavo|     Achong|      Gustavo Achong|
|       299|     Pilar|   Ackerman|      Pilar Ackerman|
|       305|     Carla|      Adams|         Carla Adams|
|       301|   Frances|      Adams|       Frances Adams|
|       307|       Jay|      Adams|          Jay Adams|
|       309|    Ronald|      Adina|        Ronald Adina|
|       311|    Samuel|   Agcaoili|     Samuel Agcaoili|
|       313|     James|    Aguilar|       James Aguilar|
|       315|    Robert|   Ahlering|     Robert Ahlering|
|       319|       Kim|      Akers|          Kim Akers|
|       441|   Stanley|       Alan|        Stanley Alan|
|       323|       Amy|    Alberts|         Amy Alberts|
|       325|      Anna|   Albright|       Anna Albright|
|       327|    Milton|     Albury|       Milton Albury|
|       329|      Paul|     Alcorn|         Paul Alcorn|
|       331|   Gregory|   Alderson|    Gregory Alderson|
|       333|J. Phillip|  Alexander|J. Phillip Alexander|
+----------+----------+-----------+--------------------+
only showing top 20 rows
```

https://docs.aws.amazon.com/glue/latest/dg/aws-glue-api-crawler-pyspark-extensions-dynamic-frame-reader.html