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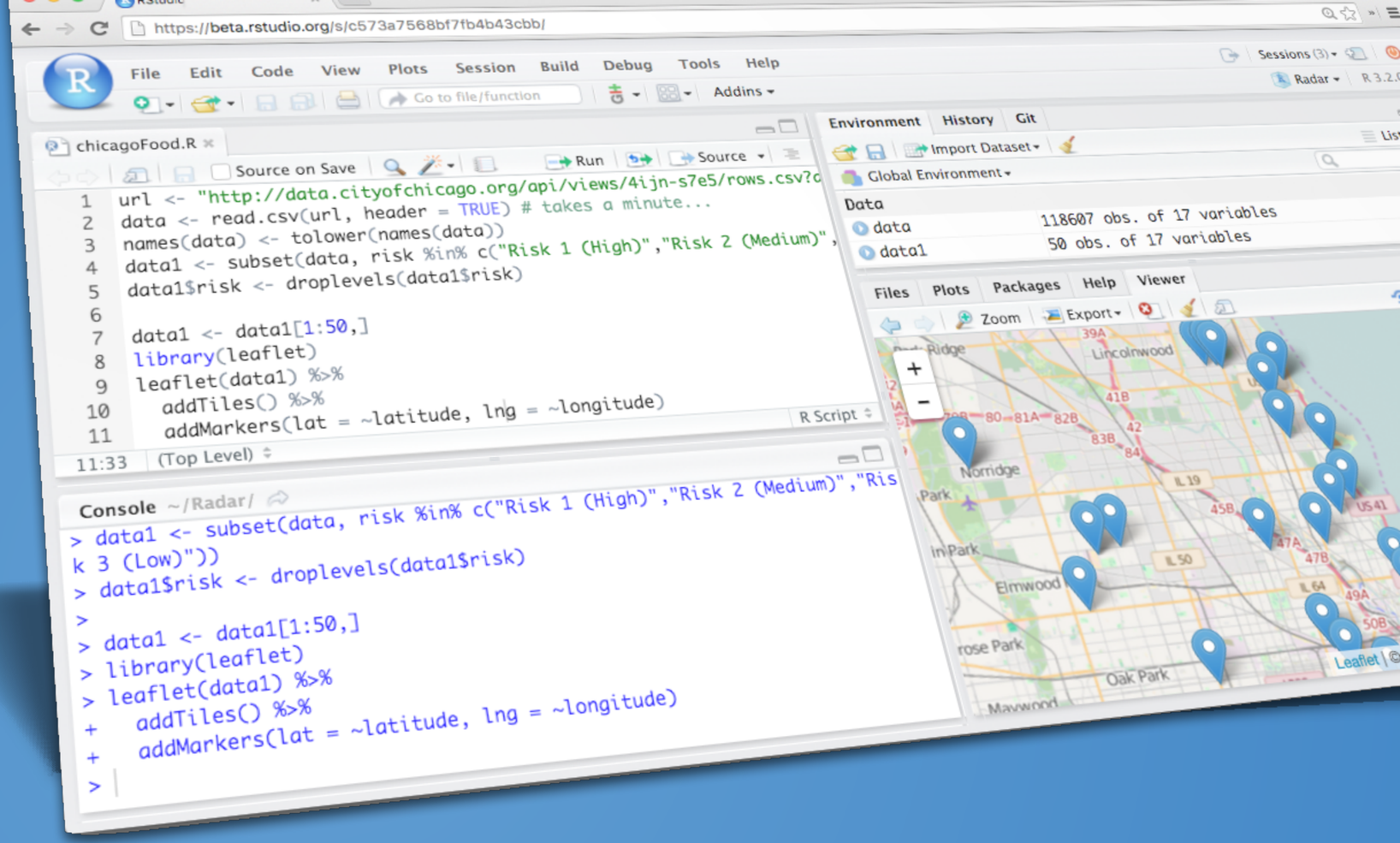

sparklyr

Introducing an R interface for Apache Spark

Edgar Ruiz

Edgar has a background in deploying enterprise reporting and Business Intelligence solutions. He has posted multiple articles and blog posts sharing analytics insights and server infrastructure for Data Science.

Solutions Engineer

- Pass Christian, Mississippi

SPARKLYR - AUTHORS

Javier Luraschi – author , creator

JJ Allaire – author

Kevin Ushey – author

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What to expect

- New slides and illustrations
- Reproducible demo code
- Highlight some new features in sparklyr

Goal: *Share something new and useful*

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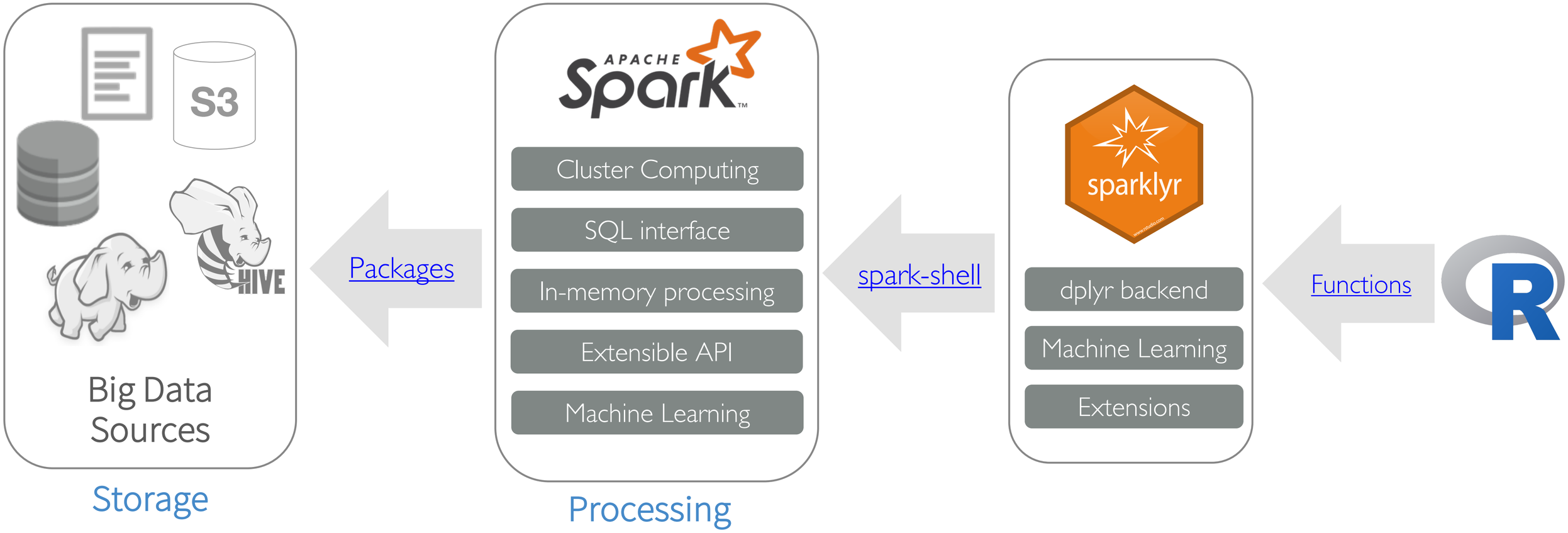
SPARKLYR – AN R INTERFACE FOR SPARK



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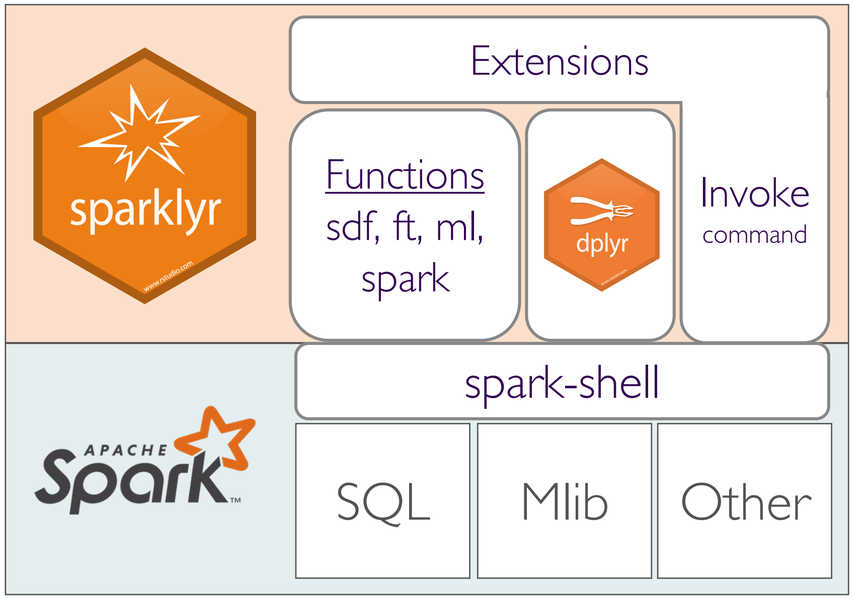
SPARKLYR OPENS ACCESS TO THE SPARK API

sparklyr uses the spark-shell to gain access to Spark. In addition to providing SQL access, sparklyr also opens access to Spark API functions like Feature Transformers, Machine Learning models and others.



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DPLYR BACKEND

With **dplyr** as an interface to manipulating Spark DataFrames, you can:

- Select, filter, and aggregate data
- Use window functions (e.g. for sampling)
- Perform joins on DataFrames
- Collect data from Spark into R

Under the hood, **sparklyr** translates the **dplyr** verbs and vector expressions into Spark SQL

```
tbl(sc,"flights") %>%
  select(Origin)
```

Translates to

```
SELECT `Origin` AS `Origin`
FROM `flights`
```

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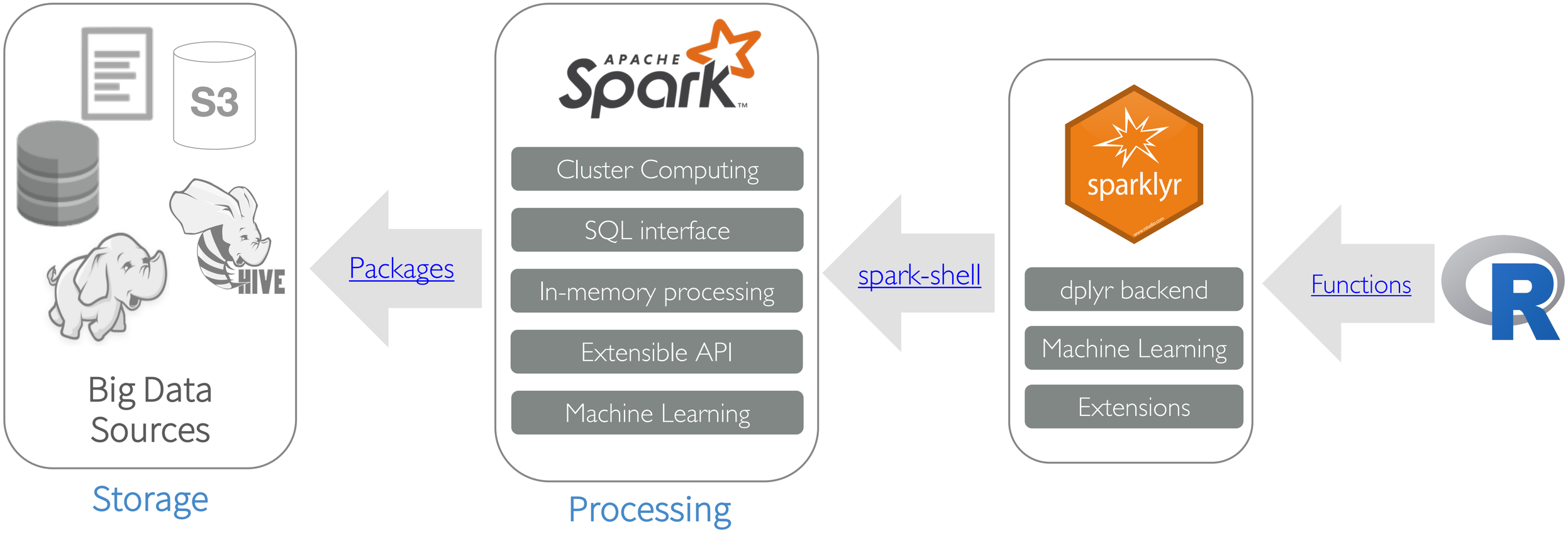
SPARKLYR – AN R INTERFACE FOR SPARK



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READING DATA FROM SPARK

Option 1 – Read data live

Spark will retrieve data from the source every time a new request from R is sent

Option 2 – Cache data in Spark

Spark will retain data in-memory while the session is active

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DEMO

- Review of sparklyr functions
- Use the Spark UI during analysis
- Read & cache data in Spark
- What's new in sparklyr
- Tips n' tricks

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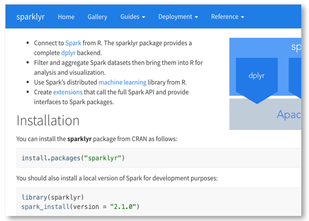
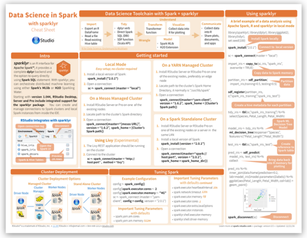
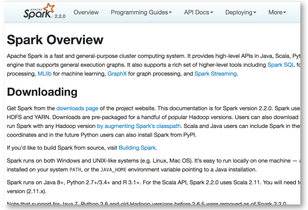
Useful Links



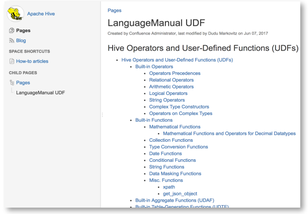
sparklyr's official website
spark.rstudio.com



sparklyr, IDE, RMarkdown cheatsheets
www.rstudio.com/resources/cheatsheets



Spark documentation
https://spark.apache.org/docs/latest/



Hive SQL UDF
https://cwiki.apache.org/confluence/display/Hive/LanguageManual+UDF

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Open Source & Free

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Shiny Server: http://www.rstudio.com/products/shiny/download-server/
shinyapps.io beta: https://www.shinyapps.io/admin/#/signup

45 Day Evaluation of Pro Products

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