Universidade de Fortaleza - UNIFOR

# INTRODUÇÃO AO CLUSTERIZAÇÃO EM BIG DATA

**MBA EM GESTÃO ANALÍTICA COM BUSINESS INTELLIGENCE E BIG DATA**

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líderes que transformam

# Instalando Hadoop e Spark

# Pré Requisitos para Windows

- ★ HADOOP 3.0.1
  - ○ http://hadoop.apache.org/releases.html
  - ○ binary 3.0.1
  - ○ http://www.apache.org/dyn/closer.cgi/hadoop/common/hadoop-3.0.1/hadoop-3.0.1.tar.gz
  - ○ Abrir hadoop-3.0.1.tar.gz
  - ○ Abrir pasta hadoop-3.0.1
  - ○ Extrair conteúdo desta pasta para **c:\bigdata\hadoop**
- ★ WINUTILS para Haddop 3.0.0 ou superior
  - ○ https://github.com/steveloughran/winutils/tree/master/hadoop-3.0.0
  - ○ download **winutils.exe** para c:\bigdata\hadoop\bin

# Pré Requisitos para Windows

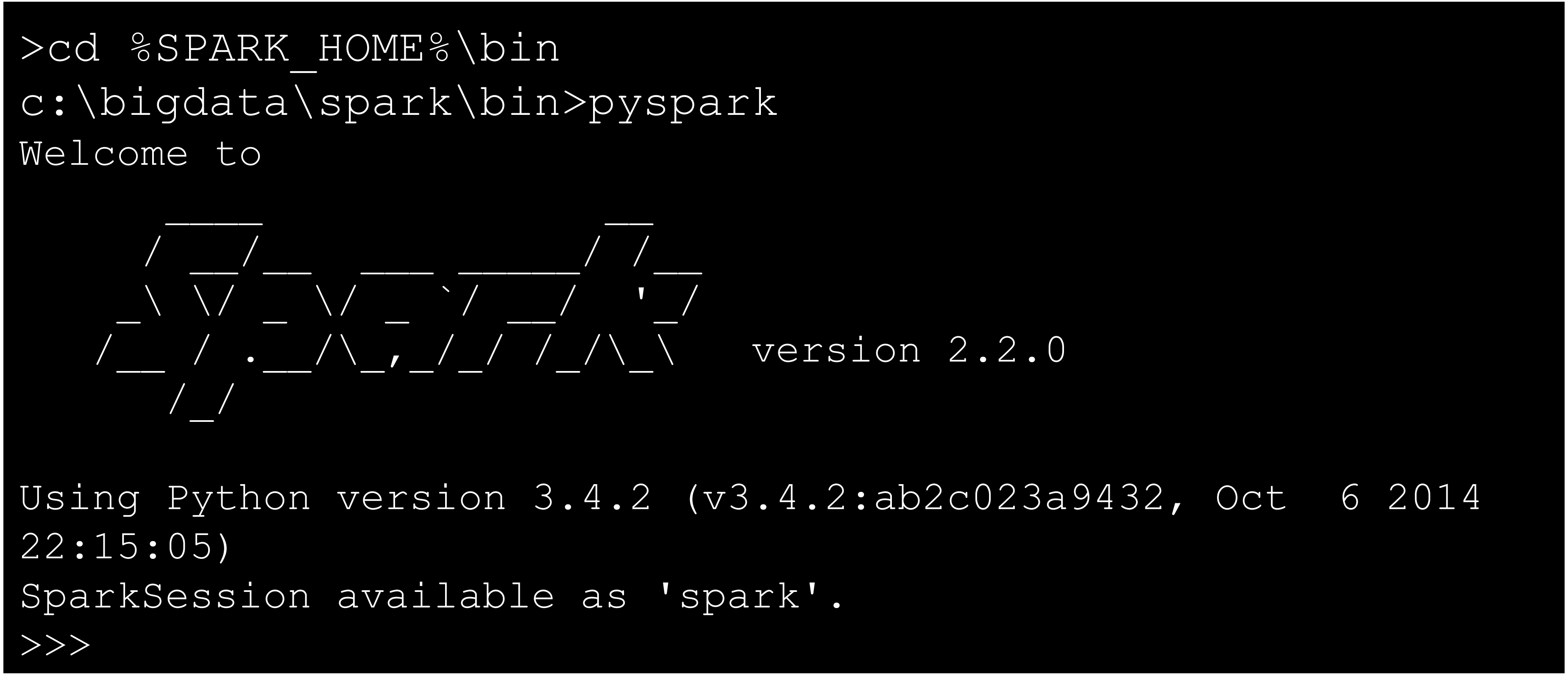
- ★ SPARK 2.3.0
  - [https://spark.apache.org/downloads.html](https://spark.apache.org/downloads.html)
  - Pre-built for Apache Hadoop 2.7 and later
  - Direct Download
  - Abrir spark-2.3.0-bin-hadoop2.7.tgz
  - Abrir pasta spark-2.3.0-bin-hadoop2.7
  - Extrair conteúdo desta pasta para **c:\bigdata\spark**
- ★ JAVA JRE
  - java -version
    - Deve ser 7 ou 8 (9 ainda não funciona)

# Setup

```
>set HADOOP_HOME=C:\bigdata\hadoop
>set SPARK_HOME=c:\bigdata\spark
>cd %HADOOP_HOME%\bin
>hdfs namenode -format
c:\bigdata\hadoop\bin>winutils ls c:\tmp\
drwxrwxrwx 1 LSBD\manoel.ribeiro LSBD\Domain Users 0 Oct
3 2017 c:\tmp\hive

c:\bigdata\hadoop\bin>winutils chmod 777 c:\tmp\
```

# Iniciando



```
>cd %SPARK_HOME%\bin
c:\bigdata\spark\bin>pyspark
Welcome to
      ____              __
     / __/__  ___ _____/ /__
    _\ \/ _ \/ _ `/ __/  '_/
   /__ / .__/\_,_/_/ /_/\_\   version 2.2.0
      /_/

Using Python version 3.4.2 (v3.4.2:ab2c023a9432, Oct  6 2014
22:15:05)
SparkSession available as 'spark'.
>>>
```

# Hello World!

```
>>> data=[(‘Iphone8’, 5000),(‘Pixel2’, 4000),
(‘GalaxyS8’,3000), (‘MotoZ’, 2500)]

>>> df=spark.createDataFrame(data,
(‘smartphone’,’valor’))
>>> df.printSchema()
root
 |-- smartphone: string (nullable = true)
 |-- valor: long (nullable = true)
```

# Fim