



Fundamentos de Big Data

Demo 1 Hello World Spark

Centro Universitário 7
Setembro - Uni7

**Especialização em
Ciência de Dados com Big
Data, BI e Data Analytics**

Prof. Manoel Ribeiro

Instalando Hadoop e Spark



Pré Requisitos para Windows

★ HADOOP 2.8.1

- <http://hadoop.apache.org/releases.html>
- binary 2.8.1
- <http://www.apache.org/dyn/closer.cgi/hadoop/common/hadoop-2.8.1/hadoop-2.8.1.tar.gz>
- Abrir hadoop-2.8.1.tar.gz
- Abrir pasta hadoop-2.8.1
- Extrair conteúdo desta pasta para **c:\bigdata\hadoop**

★ WINUTILS para Hadoop 2.8.1

- <https://github.com/steveloughran/winutils/tree/master/hadoop-2.8.1>
- download **winutils.exe** para c:\bigdata\hadoop\bin

Pré Requisitos para Windows

★ SPARK 2.2.0

- <https://spark.apache.org/downloads.html>
- Pre-built for Apache Hadoop 2.7 and later
- Direct Download
- Abrir spark-2.2.0-bin-hadoop2.7.tgz
- Abrir pasta spark-2.2.0-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
c:\bigdata\hadoop\bin>winutils ls c:\tmp\hive
drwxrwxrwx 1 LSB\manoe1.ribeiro LSB\Domain Users 0 Oct
3 2017 c:\tmp\hive

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

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)
```

Hello World!

```
>>> df.show()
```

```
[Stage 1:>
```

```
(0 + 3) / 3]
```

```
+-----+-----+  
|smartphone|valor|  
+-----+-----+  
|   Iphone8| 5000|  
|   Pixel2 | 4000|  
| GalaxyS8 | 3000|  
|   MotoZ  | 2500|  
+-----+-----+
```

```
>>> quit()
```


Fim