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2. Apache Pig: Regex (Regular expressions)

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This extends the tutorial 1. Apache Pig Getting started.

Input Data

scores.xml in folder:**/Users/arulk/projects** representing marks of 4 students in 3 subjects:

```
<scores>
   <subject>
       <name>Science</name>
       <marks>
          <mark>80</mark>
       <mark>75</mark>
```

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```
        <mark>89</mark>
        <mark>90</mark>
        </marks>
    </subject>
    <subject>
         <name>Maths</name>
         <marks>
            <mark>90</mark>
        <mark>87</mark>
        <mark>78</mark>
        <mark>92</mark>
        </marks>
    </subject>
    <subject>
         <name>English</name>
         <marks>
            <mark>78</mark>
        <mark>88</mark>
        <mark>65</mark>
        <mark>99</mark>
        </marks>
    </subject>
</scores>

```

Step 1: Start pig in local file system mode.

```

pig -x local

```

Step 2: Extract the "**Subjects**" from the input XML file.

```

grunt> SUBJECTS_EXTRACT =  LOAD '/Users/arulk/proj

```

Dump the output:

```

grunt> dump SUBJECTS_EXTRACT;

```

```

(<subject>        <name>Science</name>        <marks>
(<subject>        <name>Maths</name>        <marks>
```

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```
4 (<subject>        <name>English</name>        <marks>
5
```

Step 3: **Regex** to extract each “Subject” and its corresponding marks.

```
1
2 grunt> MARKS_FOR_SUBJECT_CSV = foreach SUBJECTS_EX
3
```

```
1
2 grunt> dump MARKS_FOR_SUBJECT_CSV;
3
```

Dump it:

```
1
2 (Science,80,75,89,90)
3 (Maths,90,87,78,92)
4 (English,78,88,65,99)
5
```

Step 4: Put it all into a single “marks_by_subjects.pig” script.

```
1
2
3 SUBJECTS_EXTRACT =  LOAD '/Users/arulk/projects/sc
4
5 MARKS_FOR_SUBJECT_CSV = foreach SUBJECTS_EXTRACT
6
7 dump MARKS_FOR_SUBJECT_CSV
8
9
```

Run the above pig script:

```
1
2 $ pig -x local marks_by_subjects.pig
3
```

Outputs:

```
(Science,80,75,89,90)
(Maths,90,87,78,92)
(English,78,88,65,99)
```

If you run without "-x local" option it runs in "Map-Reduce" mode against the HDFS (e.g. hdfs://localhost:9000). The name and data nodes need to be running. Otherwise you will get "Caused by: java.net.ConnectException: Connection refused" error.

Mapreduce mode

```
pig -x mapreduce
pig
```

‹ 1. Apache Pig Getting started 3. Apache Pig: XPath for XML ›

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