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2. Apache Pig: Regex (Regular expressions)

 Posted on [February 5, 2016](#)

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:

```
1
2 <scores>
3   <subject>
4     <name>Science</name>
5     <marks>
6       <mark>80</mark>
7       <mark>75</mark>
```

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```

8      <mark>89</mark>
9      <mark>90</mark>
10     </marks>
11 </subject>
12 <subject>
13     <name>Maths</name>
14     <marks>
15         <mark>90</mark>
16         <mark>87</mark>
17         <mark>78</mark>
18         <mark>92</mark>
19     </marks>
20 </subject>
21 <subject>
22     <name>English</name>
23     <marks>
24         <mark>78</mark>
25         <mark>88</mark>
26         <mark>65</mark>
27         <mark>99</mark>
28     </marks>
29 </subject>
30 </scores>
31

```

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TUT - Zookeeper

Step 1: Start pig in local file system mode.

```

1
2 pig -x local
3

```

Step 2: Extract the “Subjects” from the input XML file.

```

1
2 grunt> SUBJECTS_EXTRACT = LOAD '/Users/arulk/proj
3

```

Dump the output:

```

1
2 grunt> dump SUBJECTS_EXTRACT;
3
1
2 (<subject>          <name>Science</name>          <marks>
3 (<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:

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

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

```
1  
2 pig -x mapreduce  
3 pig  
4
```

[◀ 1. Apache Pig Getting started](#)[3. Apache Pig: XPath for XML ▶](#)

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