

# Cloud Computing

Winter Term 2018/2019

Tutorial Session 4



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Complex and Distributed IT-Systems

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# Practical Assignment 4

- Q&A session for the written exam: 12.02.
- Written exam: 20.02.
- Due: 24.01.2019
- Only 1,5 weeks for this assignment!
- Summary:
  - Write two small distributed programs with Flink (introduced in lecture)
  - Datasets for the programs provided on ISIS platform
  - Execute your programs on a distributed Flink installation
    - Install Flink yourself, or use Amazon EMR

# Program 1: Word Count

Lorem ipsum dolor sit  
amet, consetetur  
sadipscing elitr, sed  
diam nonumy eirmod  
tempor invidunt ut  
labore et dolore magna  
aliquyam erat, sed  
diam voluptua. At vero  
eos et accusam et  
justo duo dolores et ea  
rebum. Stet clita kasd  
gubergren, no sea



Word	Occurrences
lorem	1
ipsum	2
dolor	4
sit	1
amet	5

# Program 2: K-Means

- Plot your results with the provided plot\_clusters.py script

radio	mcc	net	lon	lat
UMTS	262	2	13,285512	52,522202
GSM	262	2	13,276907	52,525714
GSM	262	2	13,285064	52,524
UMTS	262	2	13,285446	52,521744
UMTS	262	2	13,293457	52,521515
UMTS	262	2	13,289106	52,53273
UMTS	262	3	13,349675	52,497575
GSM	262	2	13,349711	52,497367
GSM	262	3	13,349743	52,497437
GSM	262	3	13,34963	52,497378
UMTS	262	3	13,349223	52,497519
UMTS	262	3	13,349055	52,497572
UMTS	262	2	13,349705	52,497369
UMTS	262	3	13,348491	52,498547
UMTS	262	2	13,349311	52,497605
UMTS	262	2	13,349894	52,497346
UMTS	262	2	13,348902	52,497632
UMTS	262	2	13,348857	52,497514
UMTS	262	2	13,347863	52,498668
GSM	262	2	13,349544	52,497399



lte-cellid	lon	lat
2,7E+07	13,285512	52,522202
2,7E+07	13,276907	52,525714
5226755	13,285064	52,524
2,7E+07	13,285446	52,521744
5226754	13,293457	52,521515
2,7E+07	13,289106	52,53273
2,7E+07	13,349675	52,497575
2,7E+07	13,349711	52,497367
2,7E+07	13,349743	52,497437
2,7E+07	13,34963	52,497378
5191681	13,349223	52,497519
5191681	13,349055	52,497572
2,7E+07	13,349705	52,497369
1,6E+07	13,348491	52,498547
5191681	13,349311	52,497605
2,7E+07	13,349894	52,497346
5191681	13,348902	52,497632
5191681	13,348857	52,497514
1,6E+07	13,347863	52,498668
2,7E+07	13,349544	52,497399
2,7E+07	13,349726	52,497392
2,6E+07	13,337113	52,508959

