



Visualizing and Statistically
Analyzing Access Behavior to
Scientific Databases



task

- process data from SkyServer.org server log files
- save data in database
- compute charts

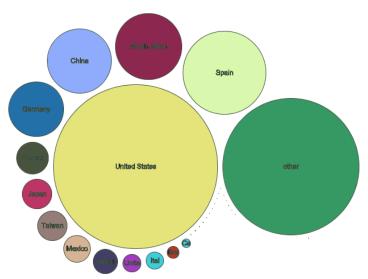


```
YY, MM, DD, HH, MI, SS, clientIP, server, dbname, elapsed, busy, rows, statement
2012.9.30.23.59.57.66.249.73.42.SDSSSOL023.BestDR7.0.066.0.1.select * from PhotoObjAll where objId=0x082805c640430159
2012,9,30,23,59,55,66.249.76.115,SDSS3J,BESTDR9,0.036,1E-3,1,select * from PhotoObjAll where objId=0x112d0e79a0a700df
2012.9.30.23.59.55.66.249.73.42.SDSSSOL023.BestDR7.0.06.1E-3.1.select * from PhotoObiAll where obiId=0x082810706096005d
2012,9.30,23.59,52.66.249.76.115.SDSS3D.BESTDR8.0.046.0.1.select * from PhotoObjAll where objId=0x112d1012407507a1
2012, 9, 30, 23, 59, 50, 66.249.76.115, SDSS3D, BESTDR8, 0.036, 0, 1, select * from Field where fieldId=0x112d101240750000
2012,9.30,23.59,49.66.249,71.122,SDSS2A,BESTDR7.3E-3.0.1.select * from PhotoTag where obiId=0x082c02f4618a00b6
2012,9,30,23,59,46,66.249.76.115,SDSS3D,BESTDR8,6E-3,0,1,select * from PhotoObjAll where objId=0x112d0b94610f0027
2012.9.30.23.59.45.66.249.76.115.SDSS3J.BESTDR9.0.023.1E-3.1.select * from PhotoTag where obiId=0x112d0474a08700d3
2012,9,30,23,59,43,66.249.73.42,SDSSQL023,BestDR7,0.036,1E-3,1,select * from Field where fieldId=0x0828088e40f40000
2012.9.30.23.59.43.66.249.76.115.SDSS3D.BESTDR8.0.033.0.1.select * from sppLines where specObild=0x0f1c4b8a4c006800
2012.9.30.23.59.42.66.249.73.243.SDSSSOL014.BestDR5.0.046.0.1.select * from SpecObjAll where specObjId=0x018eca4d4d400000
2012,9,30,23,59,41,66.249.73.42,SDSSSQL023,BestDR7,0.06,0,1,select * from PhotoZ where objId=0x08281a89608003a3
2012,9.30,23.59.40.66.249.76.115.SDSS3D.BESTDR8.0.036.0.1.select * from Field where fieldId=0x112d0ace20200000
2012,9,30,23,59,39,66.249.71.122,SDSS2A,BESTDR7,0.02,0,1,select * from PhotoTag where objId=0x08280a66613f00a9
2012.9.30.23.59.37.66.249.76.115.SDSS3D.BESTDR8.0.04.0.1.select * from PhotoObiAll where obiId=0x112d011f403000bf
2012,9,30,23,59,36,66.249.76.57,JHU-SDSS002,BestDR5,0.013,0,1,select * from PhotoZ where obild=0x082c02f4a306011f
2012,9,30,23,59,34,66.249.76.115,SDSS3D,BESTDR8,0.036,0,1,select * from sppLines where specObjId=0x0b0c080881006800
2012,9,30,23,59,33,66,249,73,42,SDSSSOL023,BestDR7,0.063,1E-3,1,select * from Field where fieldId=0x08280bada0140000
2012, 9, 30, 23, 59, 32, 66.249.76.115, SDSS3D, BESTDR8, 0.033, 0, 1, select * from PhotoObjAll where objId=0x112d0103a0ef01f5
2012.9.30.23.59.31.66.249.76.115.SDSS3D.BESTDR8.10E-3.0.1.select * from galSpecIndx where specObild=0x04709c0797006800
2012,9,30,23,59,28,66.249.76.115,SDSS3D,BESTDR8,0.036,0,1,select * from sppLines where specObjId=0x049c95c7c1006800
2012.9.30.23.59.26.66.249.76.57.JHU-SDSS002.BestDR5.0.0.36.select * from SpecLineIndex where specObild=0x0197ca6c47400000
2012,9.30,23.59,26.66.249.76.115.SDSS3D.BESTDR8,0.023,0.1.select * from sppLines where specObild=0x14c81b8b06006800
2012,9,30,23,59,24,66.249.76.115,SDSS3D,BESTDR8,0.023,0,1,select * from sppLines where specObjId=0x14c80bcb06006800
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2012.9.30.23.59.21.66.249.73.243.SDSSSOL014.BestDR5.0.1.0.1.select * from SpecObjAll where specObjId=0x018eca4d59000000

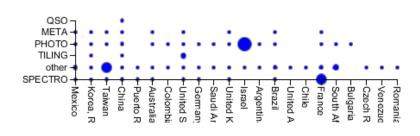


bubble chart





scatterplot + bubble chart





purpose

Find out:

- what parts of your servers were accessed,
- when they were accessed,
- and from where in the world

use e.g. to create a better user expierience



main functions

WHAT - WareHouse Analyzing Tool

- process server log files
- and load data into database
- choose different chart types
- compute charts with customizable parameters
- export charts



project demonstration



client - server model

reasoning:

- amount of data
- already present server infrastructure, most likely



client - server model

flexibility:

- not OS dependant
- device independant
- possibility to provide easy access to others



development goals

- configurable (not only SkyServer)
- simple user interface
- extendability



extendability + future development

extendability:

- more languages
- extend charts/add new ones

future development:

- support for olap server
- more admin functions, e.g. order charts
- more export formats
- support for other log file formats
- support for other data sources



extendability + future development

open source: https://github.com/Gruppe14/KIT-PSE development documents: https://github.com/Gruppe14/KIT-PSE-Docs including this presentation.

JVM version:

https://www.dropbox.com/sh/c0zm0f0vtli0kxy/l2Ahm8PRB4/KIT-PSE



Questions?



Thanks for listening!

