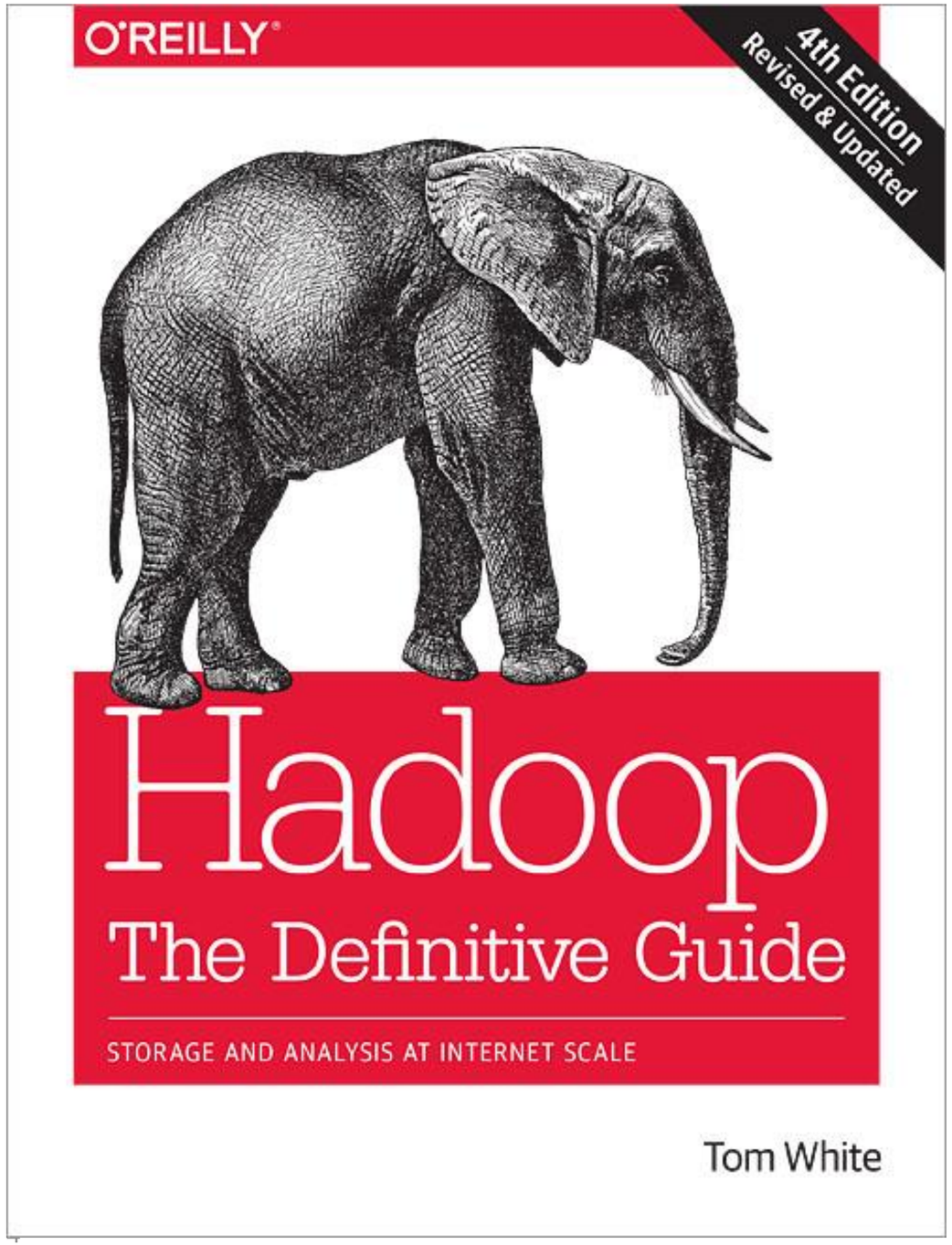
DLI Accelerated Data Science Teaching Kit

Lecture 10.2 - Why Hadoop?

How to Analyze Large Datasets?

- What software libraries to use?
- What programming languages to learn?
- Or more generally, what framework to use?



Lecture based on
Hadoop: The Definitive Guide

Book covers Hadoop, some Pig, some HBase, and other things.

http://shop.oreilly.com/product/0636920033448.do

Open-source software for reliable, scalable, distributed computing

Written in Java

Scale to thousands of machines

- Linear scalability (with good algorithm design):
  if you have 2 machines, your job runs twice as fast (ideally)

Uses simple programming model (MapReduce)

Fault tolerant (HDFS)

- Can recover from machine/disk failure
  (no need to restart computation)

http://hadoop.apache.org

Why Learn Hadoop?

- Fortune 500 companies use it
- Many research groups/projects use it
- Strong community support, and favored/backed my major companies, e.g., IBM, Google, Yahoo, eBay, Microsoft, etc.
- It's free, open-source
- Low cost to set up (works on commodity machines)
- An "essential skill", like SQL

http://strataconf.com/strata2012/public/schedule/detail/22497

Elephant in the Room

Hadoop created by Doug Cutting and Michael Cafarella while at Yahoo

Hadoop named after Doug's son's toy elephant

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Thank You