Overview
BIG DATA Computation

What is Big Data?

- It’s a Buzz Phrase. No Single Definition
- Big data is a term for data sets that are so large or complex that traditional data processing application software is inadequate to deal with them.
- Challenges include capture, storage, analysis, data curation, search, sharing, transfer, visualization, querying, updating and information privacy.
- Now, refer to Big Data Analytics

The Rise of Big Data

- Technology Growth
- Internet Adoption
- People Behaviour
- Digitize Everything
- Competition

Data Format

Structured

- Pre-defined schema
- Stored as fields and rows/records
- Example : database, data warehouse system

Semi-structured

- Inconsistent structure
- Cannot stored in form of rows and table easily
- Example : logs, tweets, sensor data

Unstructured

- Entire data or parts of it lacks structure
- Example : freeform text, reports, audio, customer feedback form

Unstructured Data: Text Mining

Open Source Technology

- Most of big data component is open source
- We can download the code, use and modify freely
- Require adequate human resources
- Lots of choices

What is Hadoop?

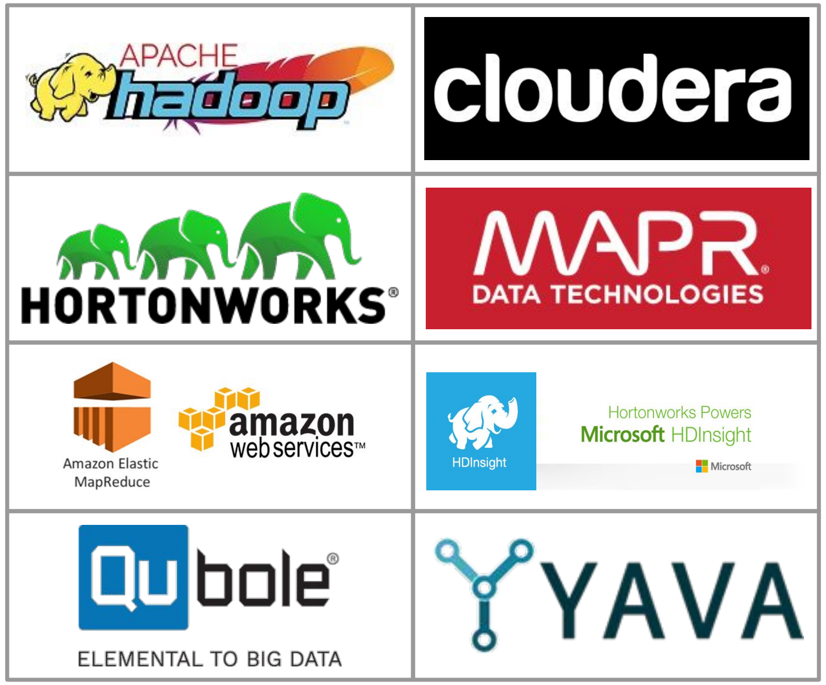
- Open Source Platform for data management
- Combination of distributed storage and distributed processing
- Computer cluster built from commodity hardware
- Framework written in java programming
- Offering scalability and high performance
- The name Hadoop is not an acronym; Doug Cutting named it after his son's toy elephant

History of Hadoop

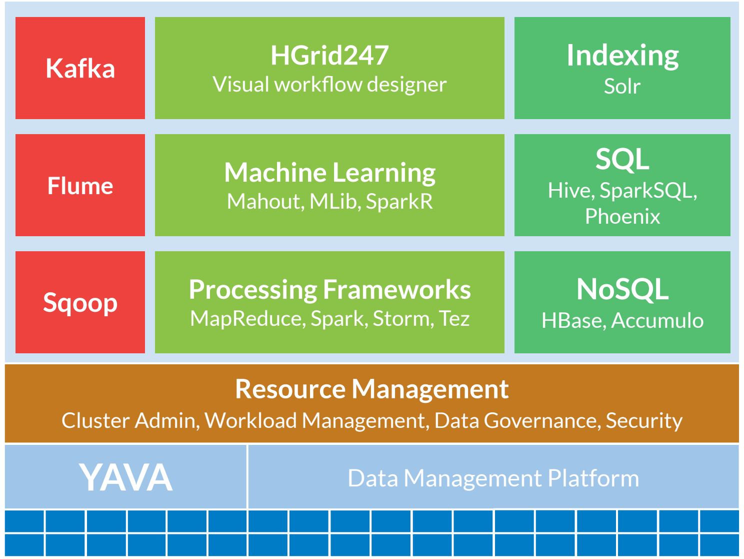
- Mike Cafarella and Doug Cutting started the Nutch project in 2002
- In 2003, Google published Google File System paper, that described the architecture of Google’s distributed file system
- By adopting GFS, Nutch Distributed File System (NDFS) began to be implemented on the Nutch project in 2004
- In 2004, Google published the paper that introduced MapReduce to the world
- Early in 2005, the Nutch developers had a working MapReduce implementation in Nutch
- In February 2006 they moved out of Nutch to form an independent subproject of Lucene called Hadoop
- April 2006 – Hadoop 0.1.0 was released

Disruptive Technology

- Open source – zero license
- Proven by big internet company
- Active community
- Fast adoption



YAVA Data Management Platform



Kafka

HGrid247
Visual workflow designer

Indexing
Solr

Flume

Machine Learning
Mahout, MLib, SparkR

SQL
Hive, SparkSQL, Phoenix

Sqoop

Processing Frameworks
MapReduce, Spark, Storm, Tez

NoSQL
HBase, Accumulo

Resource Management
Cluster Admin, Workload Management, Data Governance, Security

YAVA

Data Management Platform

All in one data management platform
Programming/Scripting :

- Java, Python, Scala, R
- SQL
- HGrid247 - Visual Designer

For further info : **yava.labs247.id**

Big data and artificial intelligence platform based on open source component. It is designed to make organization easier to implement big data.

Use Case

Archival and Storage

- Retain years of data
- Retain intermediate format

Transformation

- Map inputs and outputs where needed
- Turn unstructured data into structured at runtime

Analysis

- Explore data in-place
- Execute arbitrary code