Big Data Integration and Analysis

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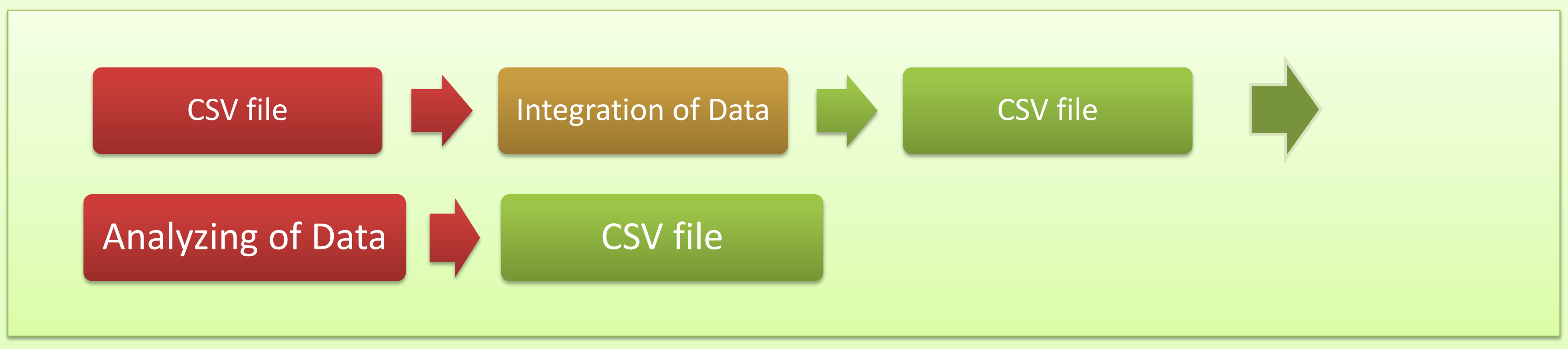
Summer Semester 2015

Definition of the Project

Goal: get the big data CSV file then Integration and Analyzing on it



Requirements: Ubuntu 14.4, Hadoop 2.6, Spark 1.4, Scala 2.1, Maven 3.3, Eclipse IDE, Java JDK 1.8
Input File: CSV File
Output File: CSV File

Integration & Analysis

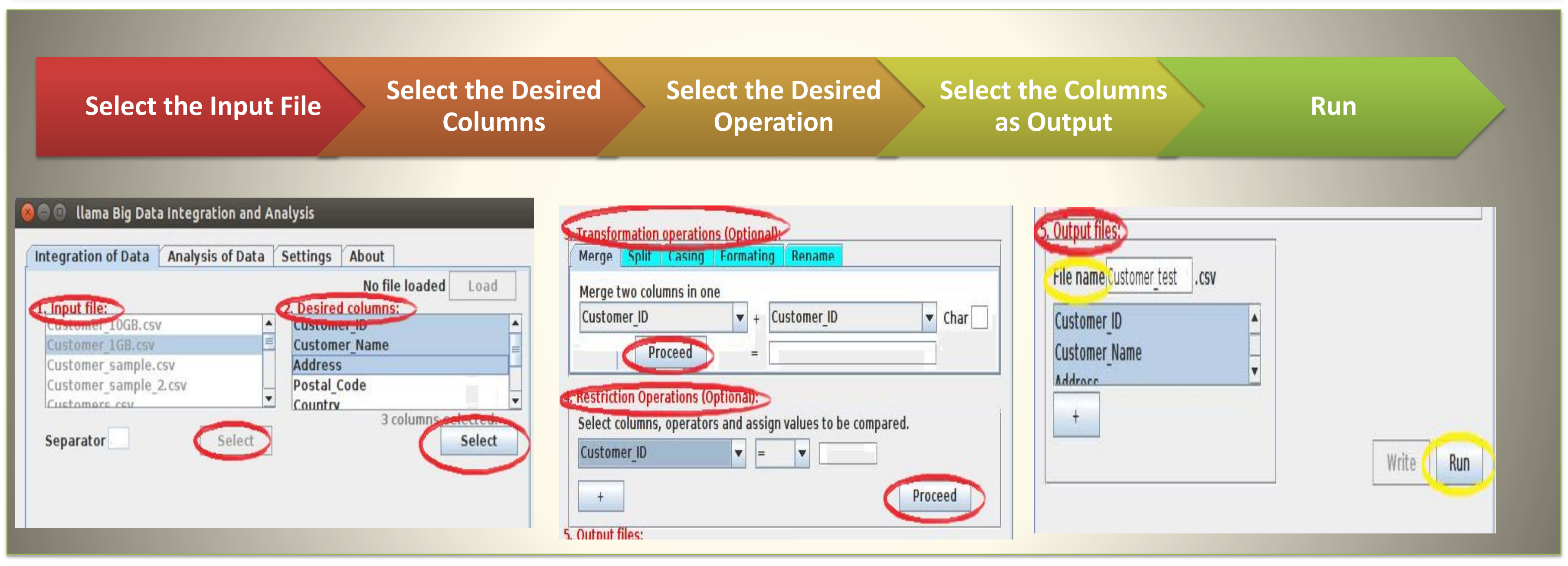
Integration or **Cleaning Data** is the process of extracting, cleaning, formatting and loading data from a file, table, or database.

Analysing Data is a process of finding meaningful information and discovering hidden relationships in Big Data with the goal of supporting decision-making[1].

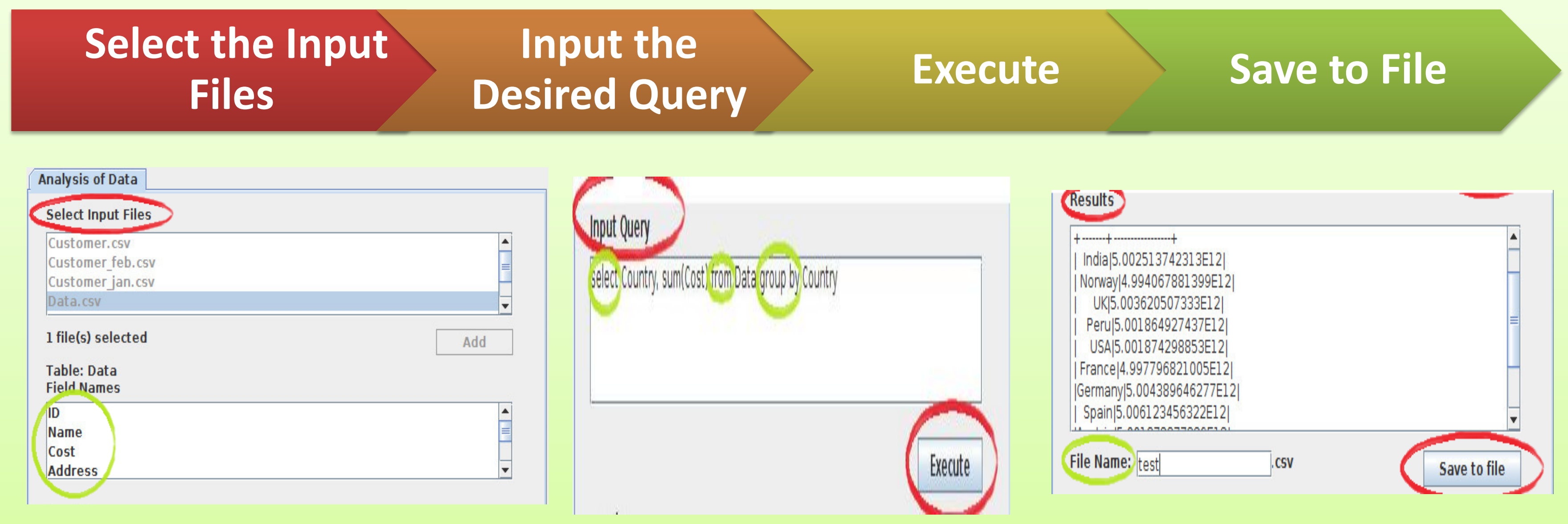
Apache Hadoop & Spark

Apache Hadoop is an open-source software framework written in Java for distributed storage and distributed processing of very large data sets on computer clusters built from commodity hardware.[3]
Apache Spark is an open source cluster computing framework. In contrast to Hadoop provides performance up to 100 faster for certain applications.[2]

Integration of Data



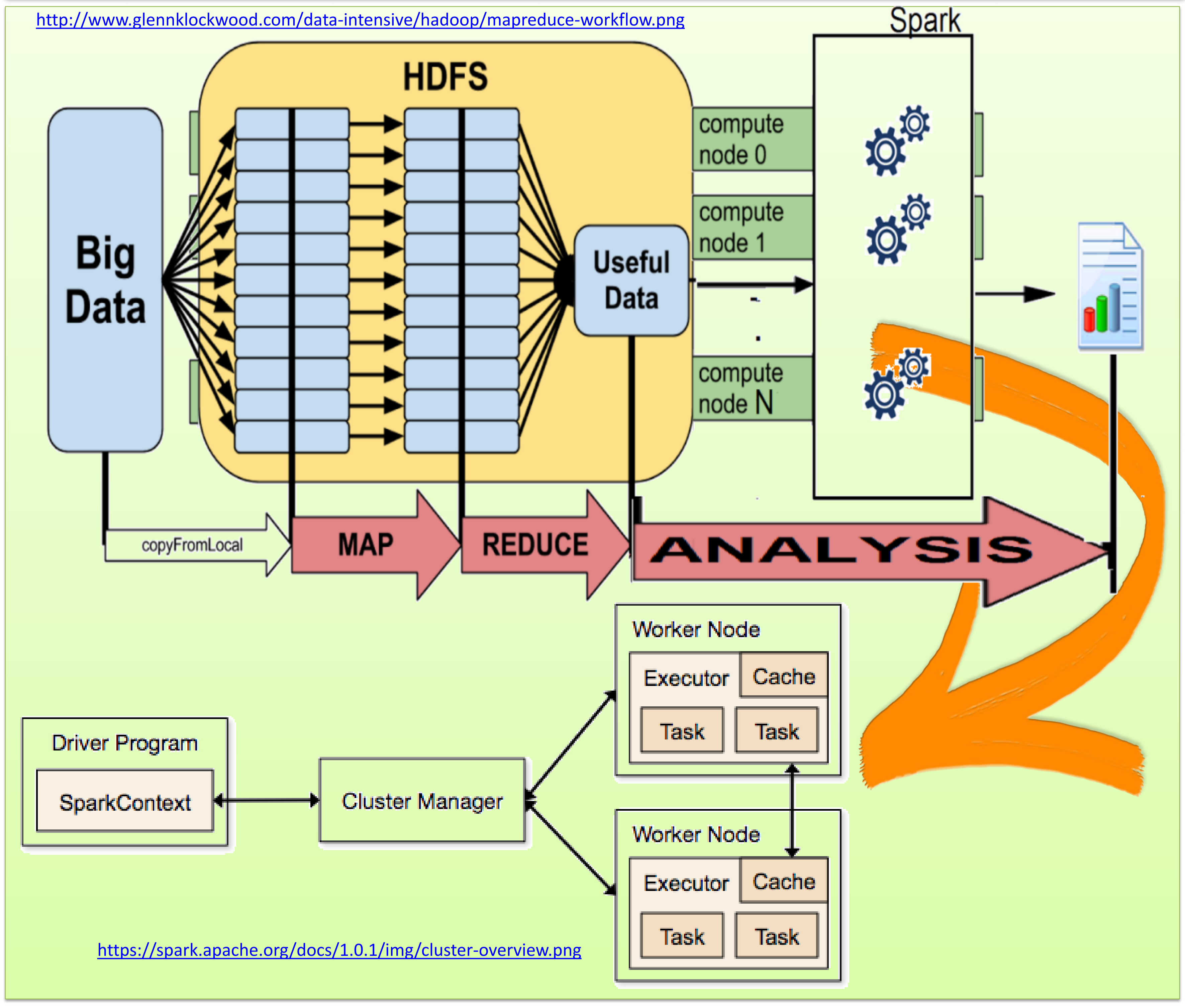
Analysis of Data



```
select Country, sum(Cost) from Data group by Country
```

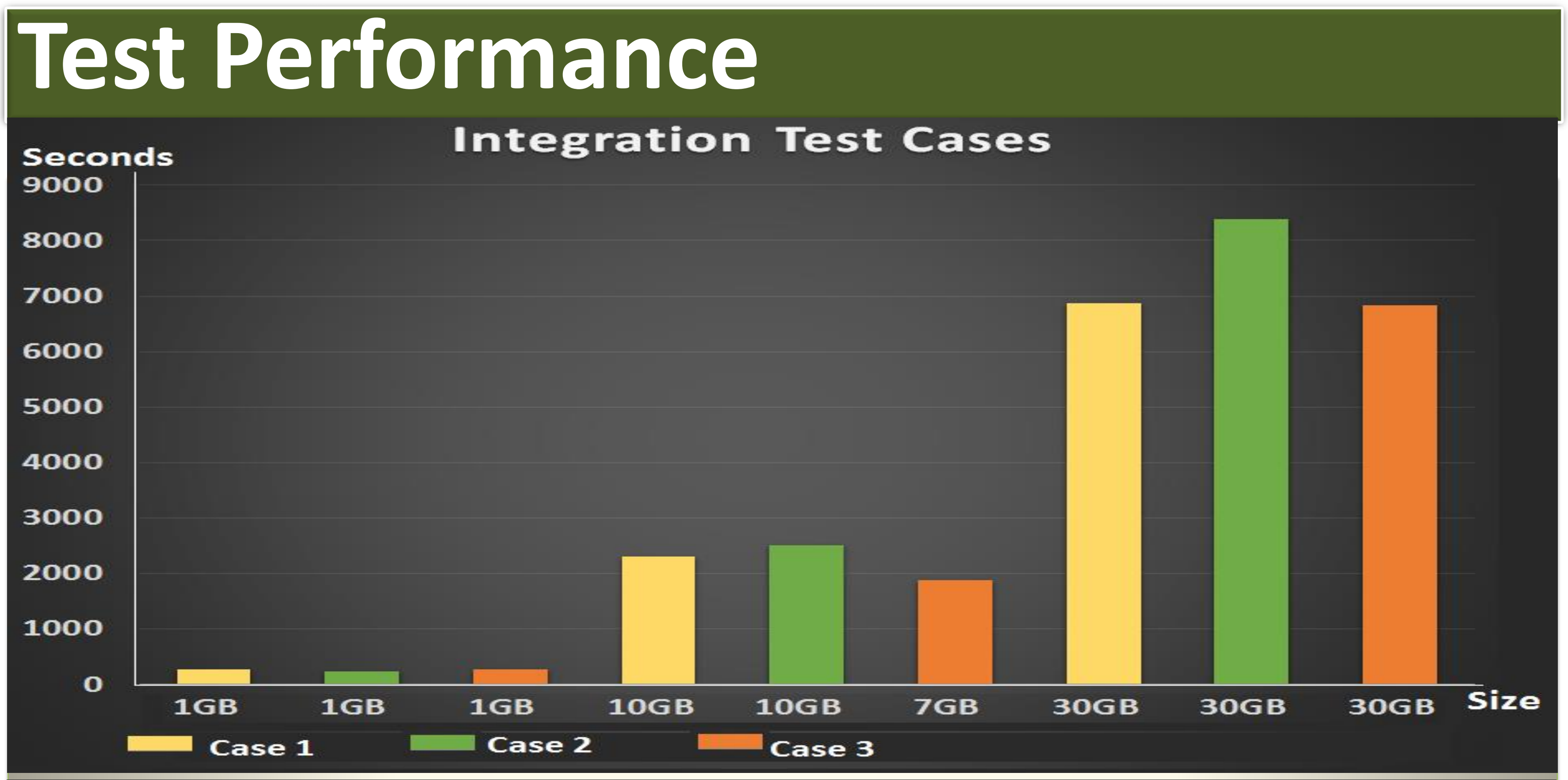
```
+-------+----------------+
| India|5.002513742313E12|
|Norway|4.994067881399E12|
|    UK|5.003620507333E12|
|  Peru|5.001864927437E12|
|   USA|5.001874298853E12|
|France|4.997796821005E12|
|Germany|5.004389646277E12|
|  Spain|5.006123456322E12|
```

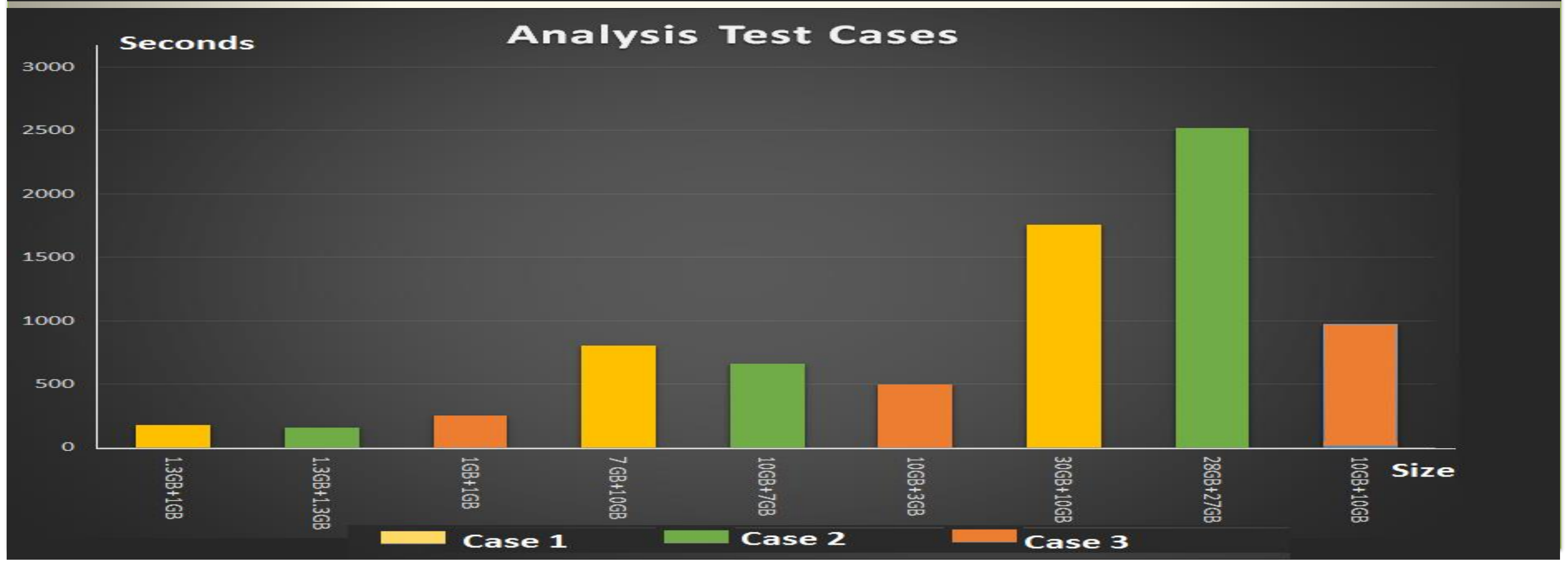
Architecture Diagram


http://www.glennklockwood.com/data-intensive/hadoop/mapreduce-workflow.png

https://spark.apache.org/docs/1.0.1/img/cluster-overview.png

Test Performance





Virtual Machine Description

Hostname: EIS03

Software installed:

Installed on:

- Ubuntu 14.04 LTS 64bit OS
- 1GB RAM
- Jdk 1.8
- Apache Hadoop 2.6
- Apache Spark 1.4

Local Access:
User: eis-user
Password: E1sbda2015

Remote Access:
Partner ID: 392368182
Password: E1sbda2015

Reference :
[1]http://www.oracle.com/technetwork/database/options/advanced-analytics/bigdataanalyticswpoaa-1930891.pdf
[2] https://en.wikipedia.org/wiki/Apache_Spark
[3] https://en.wikipedia.org/wiki/Apache_Hadoop

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