PIG

is an open-source technology that

offers a high-level mechanism for parallel programming of MapReduce jobs

to be executed on Hadoop clusters

PIG

IS A PART OF THE HADOOP ECOSYSTEM, IDEAL FOR USE WITH UNSTRUCTURED DATA WHERE

SCHEMAS ARE INCONSISTENT OR UNKNOWN

PIG

PIG DOESN'T REQUIRE DATA TO BE LOADED INTO TABLES FIRST

IT CAN OPERATE ON DATA AS SOON AS IT IS COPIED INTO HDFS

PIG VS

HIVE AND PIG SEEM TO HAVE SIMILAR APPLICATIONS AND FUNCTIONALITY

LEADING FOLKS TO WONDER

HOW DO THEY STACK UP?

PIG VS

TO (OVER-)SIMPLIFY A BIT

DATA FROM TECH SYSTMS

ETL

USING PIG

DATA WAREHOUSE

REPORTING

USING HIVE

PIG

IS GREAT FOR GETTING DATA INTO A DATA WAREHOUSE

PIG IS GREAT FOR GETTING DATA INTO A DATA WAREHOUSE

FROM POORLY STRUCTURED DATA SOURCES SUCH AS WEB LOGS

PIG IS GREAT FOR GETTING DATA INTO A DATA WAREHOUSE

FROM POORLY STRUCTURED DATA SOURCES SUCH AS WEB LOGS

THAT MAKES IT A GREAT COMPLEMENT TO HIVE

PIG IS GREAT FOR GETTING DATA INTO A DATA WAREHOUSE

FROM POORLY STRUCTURED DATA SOURCES SUCH AS WEB LOGS

THAT MAKES IT A GREAT COMPLEMENT TO HIVE

WHICH IS GREAT FOR ANALYSING DATA ALREADY IN A DATA WAREHOUSE

PIG IS GREAT FOR GETTING DATA INTO A DATA WAREHOUSE

FROM POORLY STRUCTURED DATA SOURCES SUCH AS WEB LOGS

THAT MAKES IT A GREAT COMPLEMENT TO HIVE

WHICH IS GREAT FOR ANALYSING DATA ALREADY IN A DATA WAREHOUSE

PIG IS ALSO GREAT AT SOME NON-RELATIONAL DATA TRANSFORMATIONS

PIG IS ALSO GREAT AT SOME NON-RELATIONAL DATA TRANSFORMATIONS

SUCH AS CALCULATING THE CORRELATION OF 2 MILLION-ELEMENT VECTORS

THIS WOULD NOT BE A NATURAL OPERATION IN SQL OR HIVEQL

PIG WORKS JUST FINE WITH HBASE

PIG CAN SERVE AS AN ABSTRACTION ATOP NON-RELATIONAL DATA

THIS MAKES IT MORE VERSATILE THAN HIVE

HADOOP

is a distributed computing framework
developed and maintained by

THE APACHE SOFTWARE FOUNDATION

written in Java

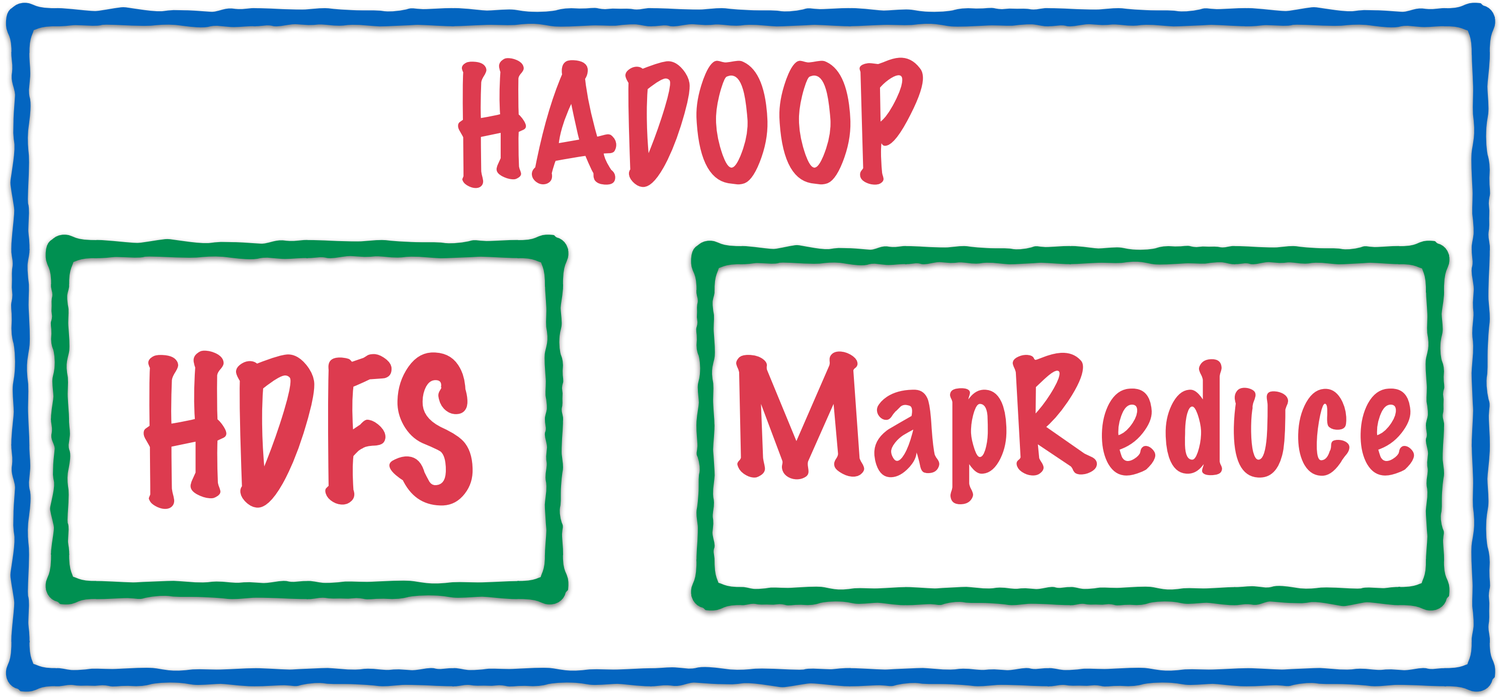
HADOOP

HDFS

A file system to manage the storage of data

MapReduce

A framework to process data across multiple servers



Hadoop is an open source implementation of 2 proprietary technologies by Google

GFS

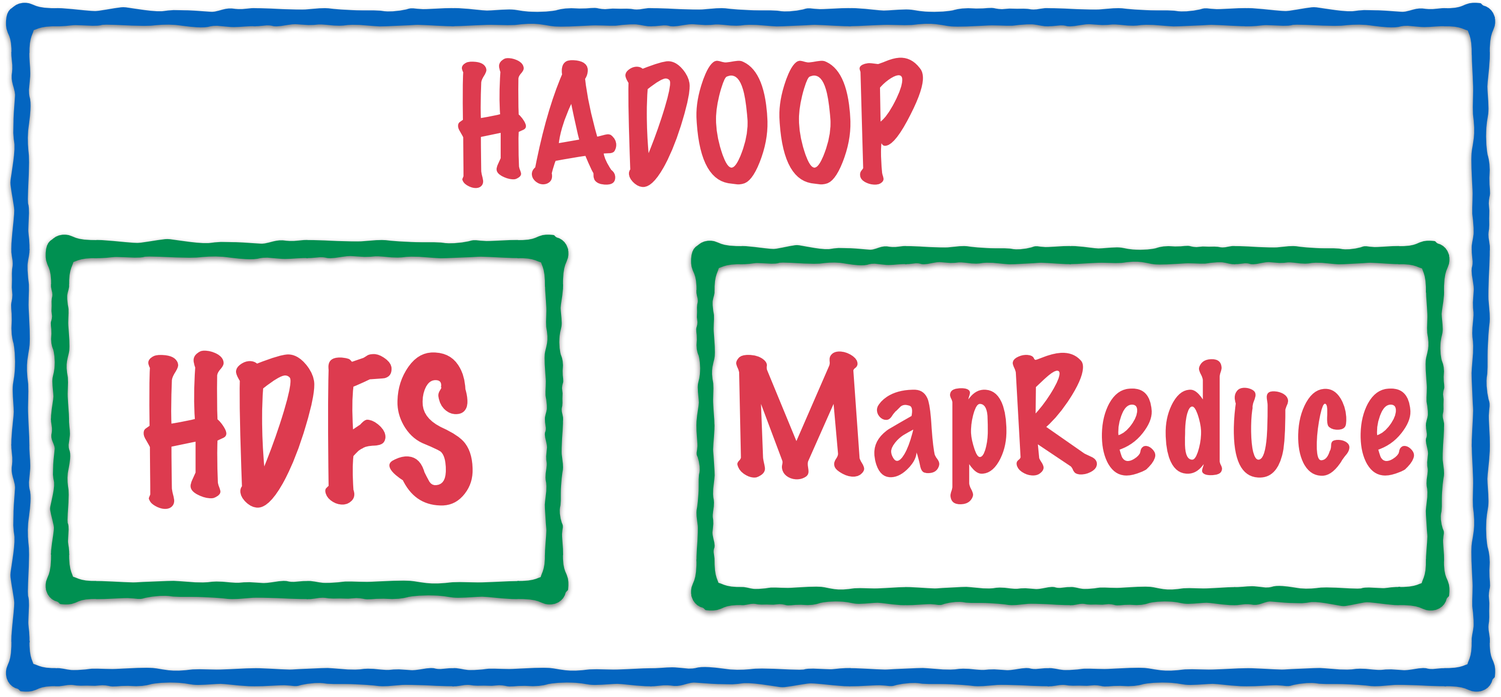
MapReduce

HADOOP

HDFS

MapReduce

A framework to process data across multiple servers



In Hadoop 2.0 the MapReduce block was broken into 2 parts

HADOOP

HDFS

YARN

A framework to run the data processing task

MapReduce

A framework to define a data processing task

HADOOP

HDFS

YARN

MapReduce

A framework to define a data processing task

MapReduce is a way to parallelize a data processing task

HADOOP

HDFS

YARN

MapReduce

A framework to define a data processing task

Manages resources and memory across multiple nodes

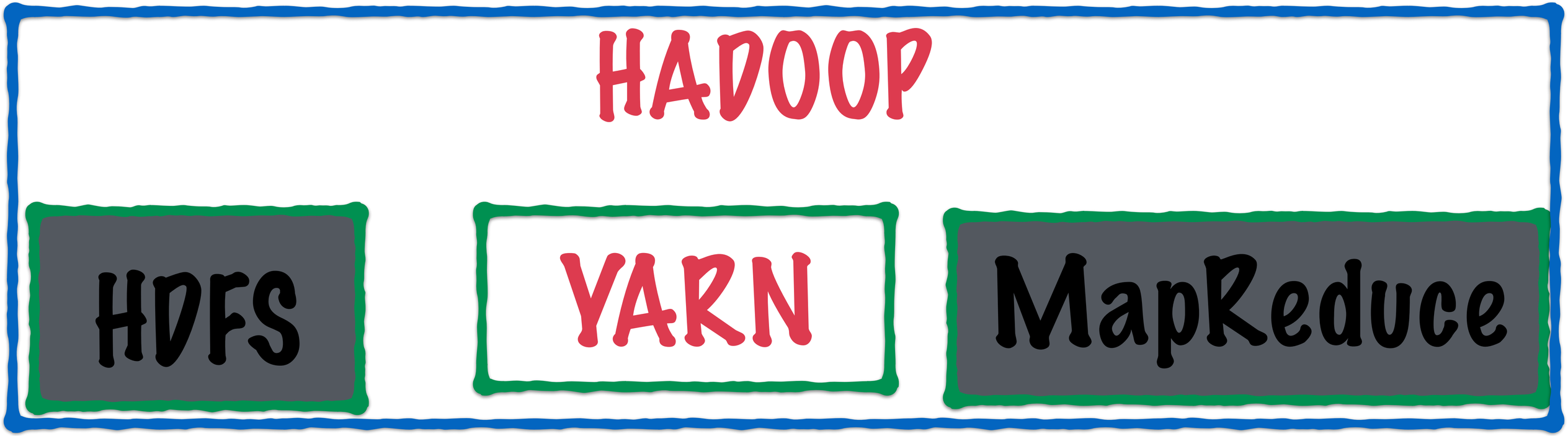
HADOOP

HDFS

YARN

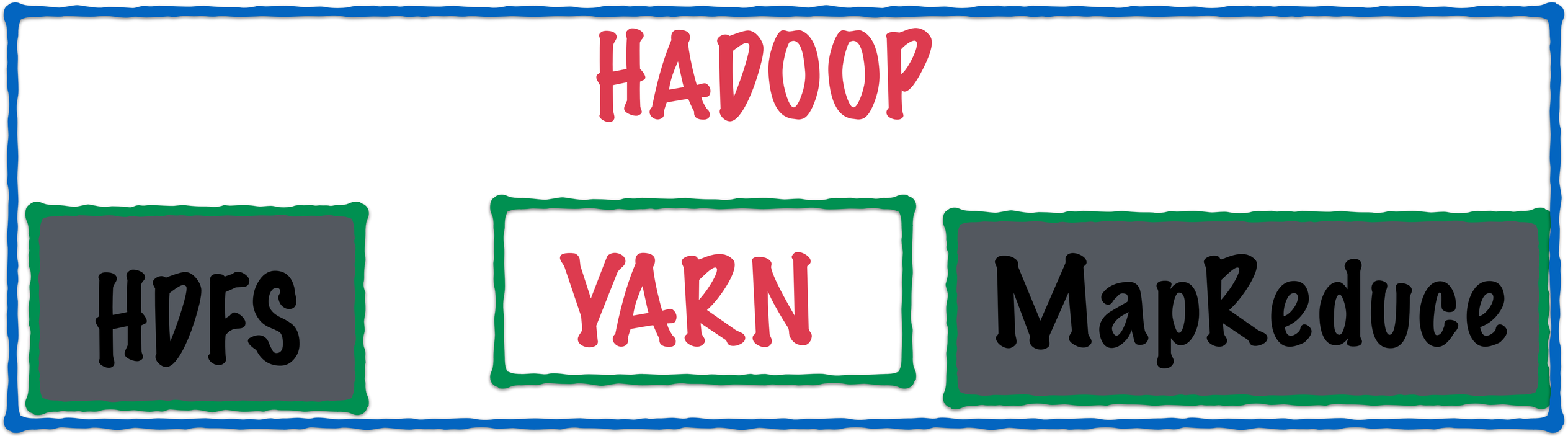
MapReduce

Hadoop uses this to store data across multiple disks



YARN was introduced in Hadoop 2.0 to separately handle

the management of resources on the Hadoop cluster



YARN co-ordinates all the different MapReduce tasks running on the cluster

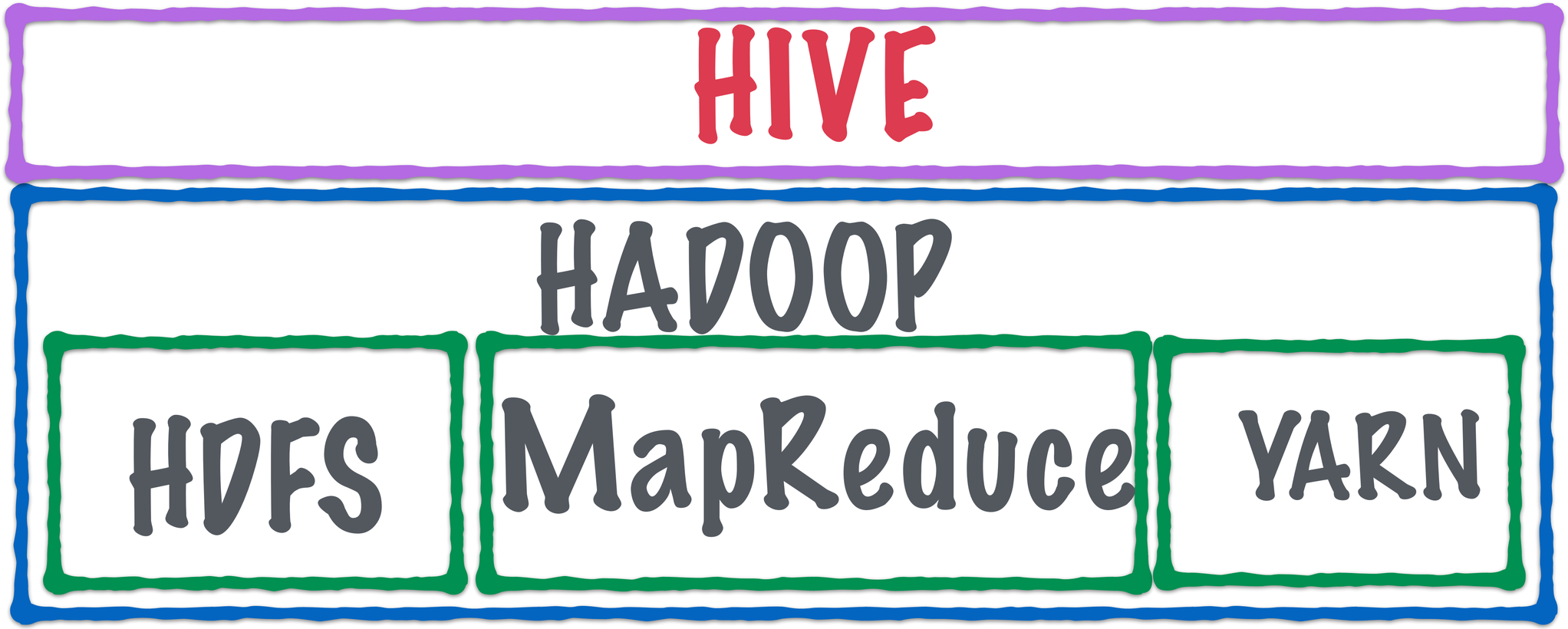
THAT was Hadoop

LET US TALK ABOUT **HIVE**

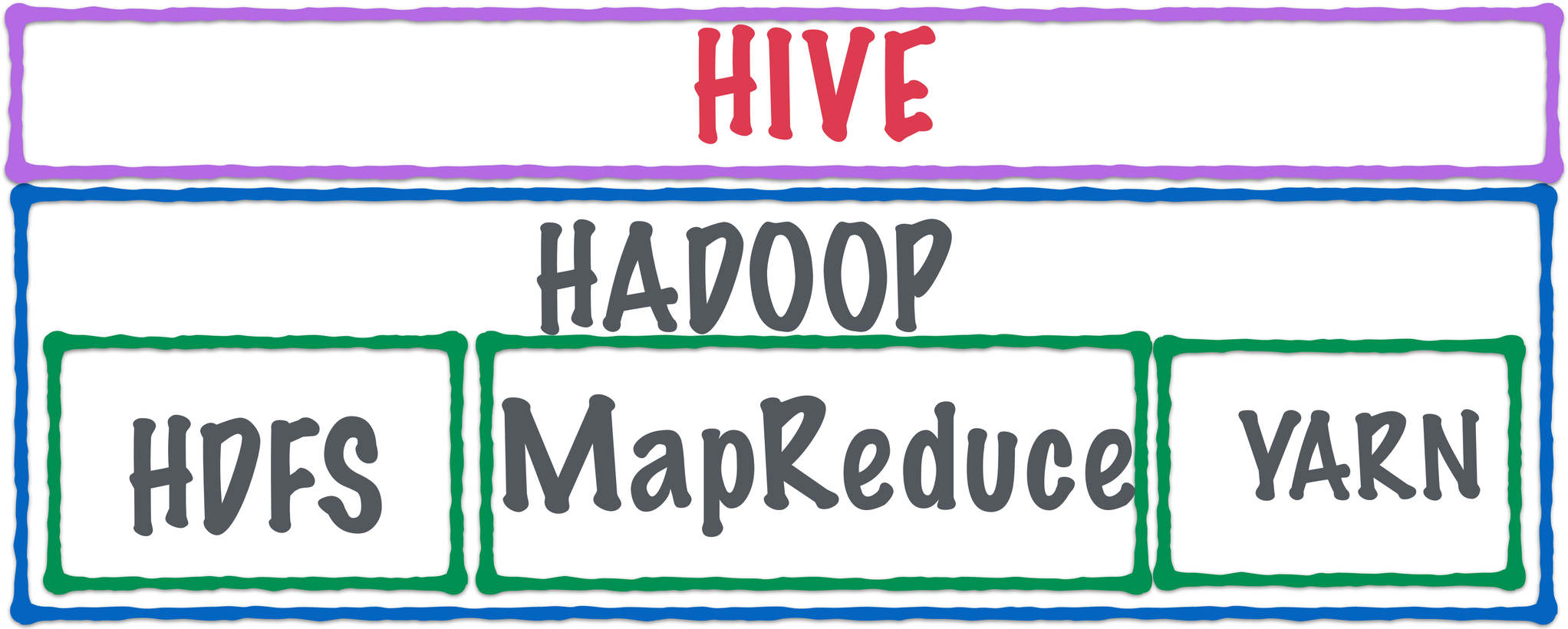
It is a **data warehouse** infrastructure

built on top of **Hadoop**

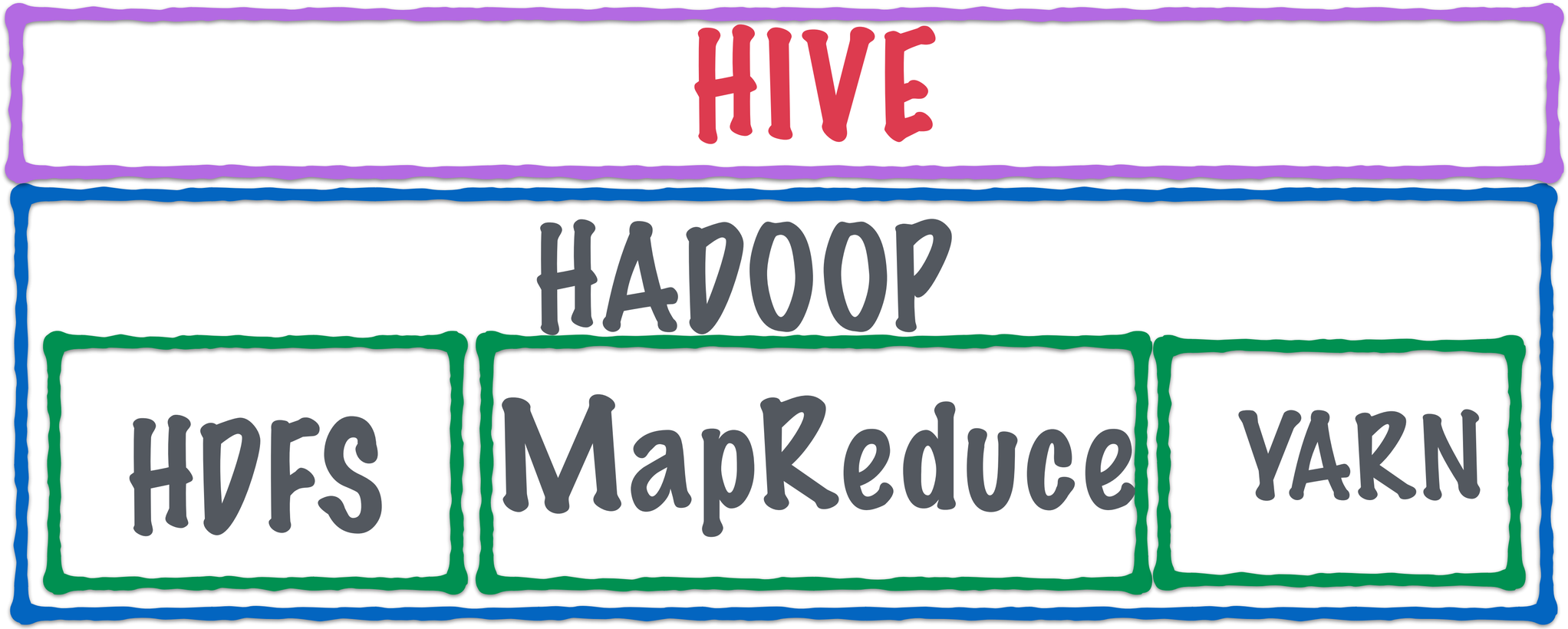
for providing **data summarisation, query and analysis**



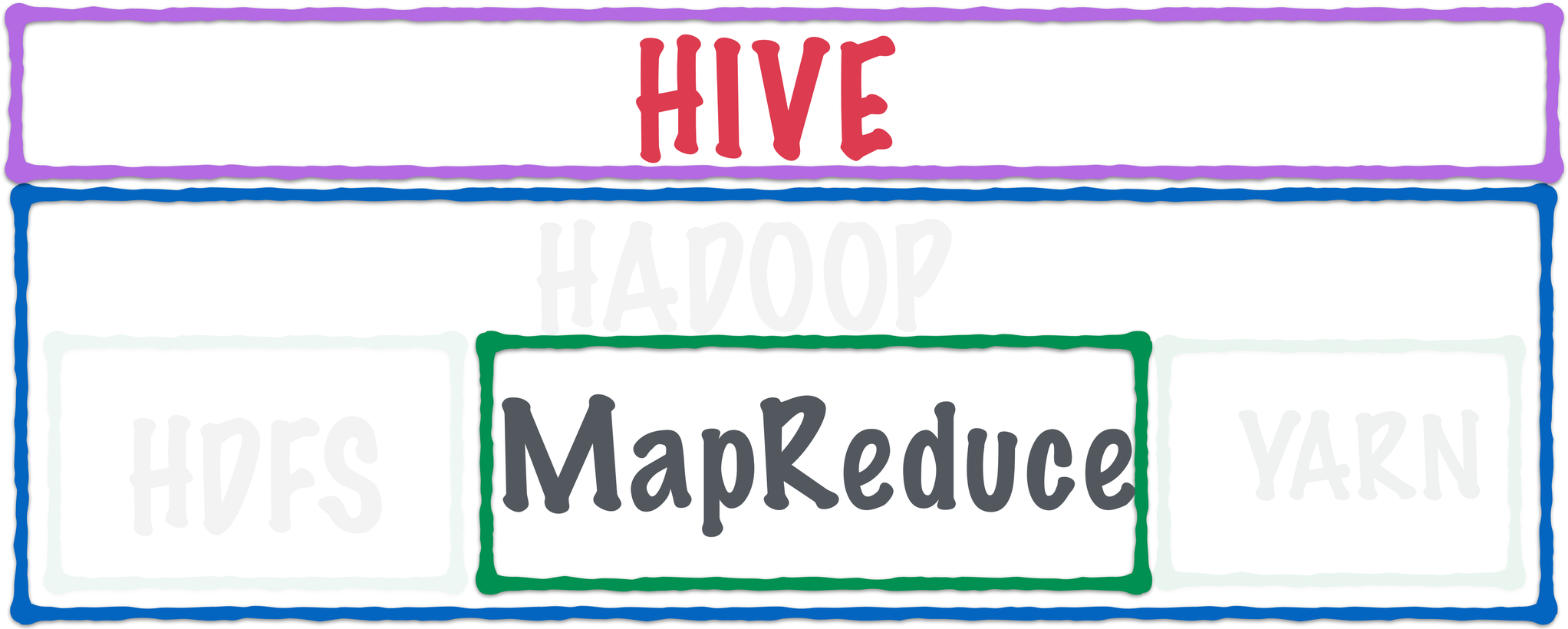
It is a data warehouse infrastructure



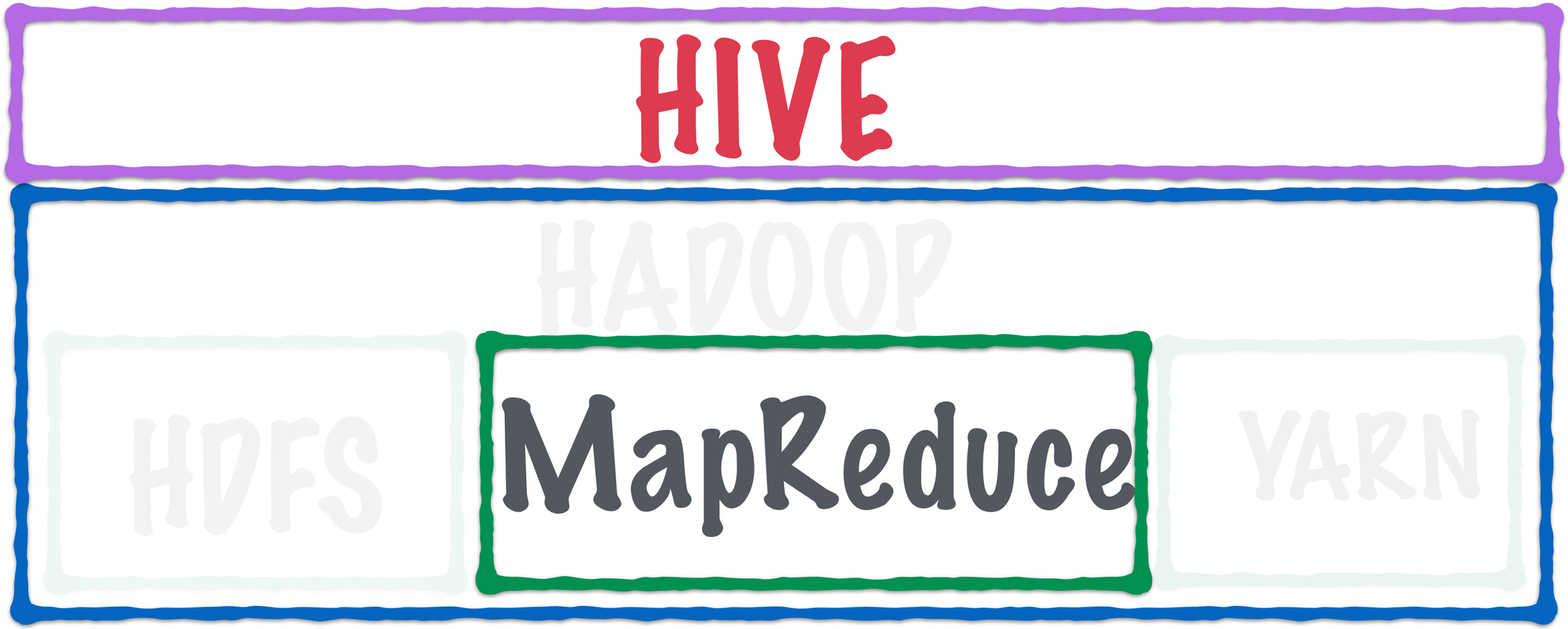
HIVE PROVIDES A SQL LIKE INTERFACE TO DATA IN HDFS



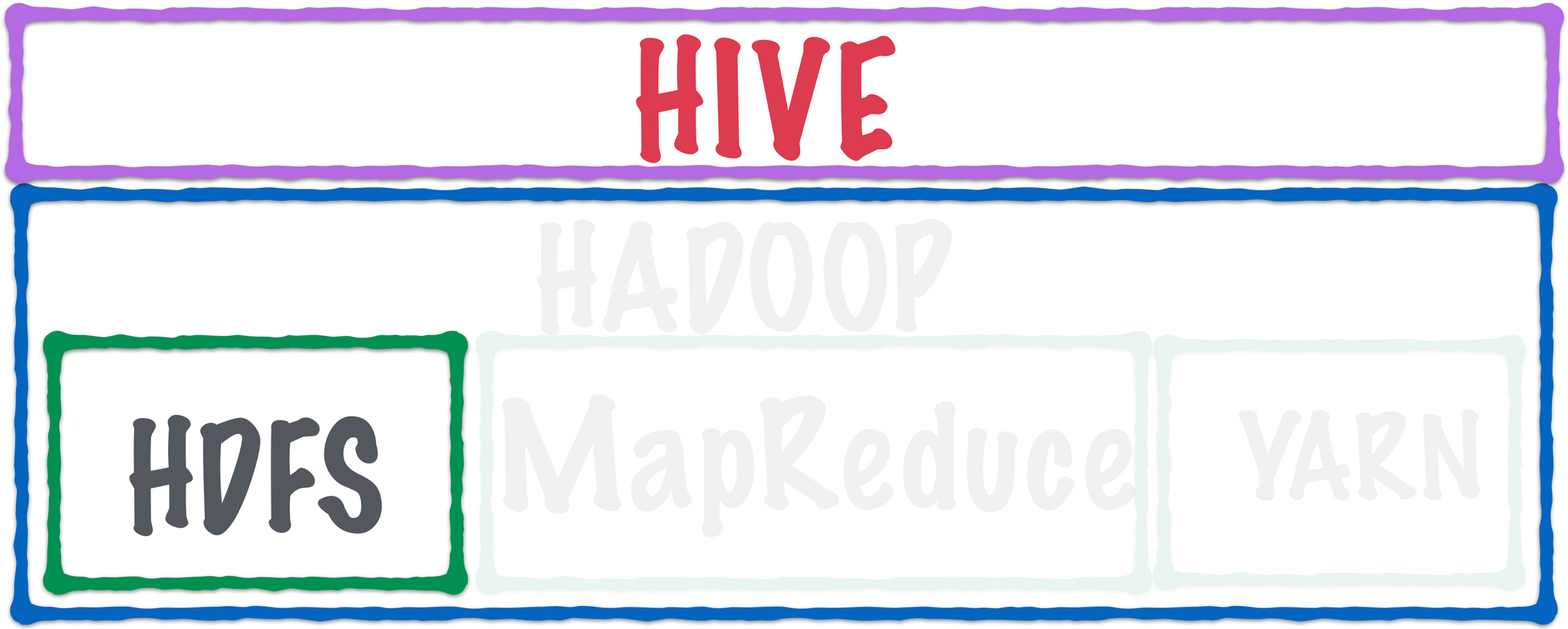
Traditional databases/closed-source data warehouses normally use SQL



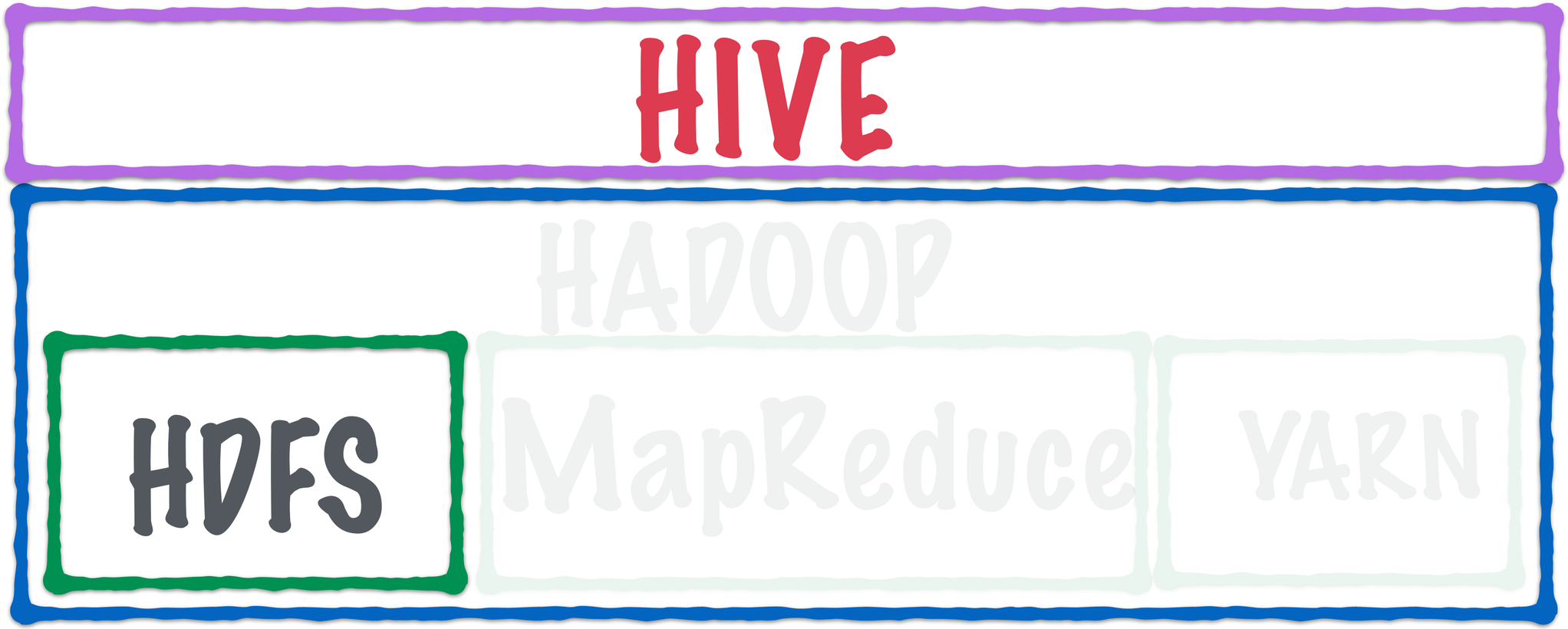
HIVE WILL TRANSLATE THE QUERY INTO 1/MORE MAPREDUCE TASKS



THE MAPREDUCE TASKS WILL PROCESS THE DATA IN HDFS AND RETURN ANY RESULTS TO HIVE



HIVE STORES IT'S DATA
AS FILES IN HDFS



THE HIVE DATA IN HDFS IS IN THE FORM OF FILES AND DIRECTORIES

HIVE

HIVE IS NOT THE SOLE OWNER OF THESE FILES

HIVE

THESE FILES CAN BE USED AND MODIFIED BY OTHER CLIENTS

HIVE

HENCE, HIVE ENFORCES

SCHEMA-ON-READ

HIVE

IN SCHEMA-ON-READ

DURING LOAD/INSERT OPERATIONS, HIVE WILL JUST DUMP THE DATA INTO A FILE WITHOUT CHECKING THE SCHEMA

HIVE

WHEN YOU READ THE DATA IN HIVE, IT WILL PARSE THE FILE AND TRY TO IMPOSE THE SCHEMA

HIVE

HIVE MAY NOT ALWAYS SUCCEED IN IMPOSING THE SCHEMA

HIVE

THE DATA IN HIVE IS MEANT TO BE USED FOR ANALYTICAL PURPOSES

HIVE

HIVE IS OPTIMAL FOR PROCESSING REALLY LARGE-SCALE DATASETS

GIGABYTES/PETABYTES

HIVE

HIVE IS OPTIMAL FOR PROCESSING REALLY LARGE-SCALE DATASETS

BUT HIVE IS NOT OPTIMAL IN SITUATIONS WHERE THE SCHEMA IS UNKNOWN, INCOMPLETE OR INCONSISTENT

HIVE

BUT HIVE IS NOT OPTIMAL IN SITUATIONS WHERE THE SCHEMA IS UNKNOWN, INCOMPLETE OR INCONSISTENT

WHAT DO WE DO IF WE HAVE DATA WITH INCONSISTENT SCHEMA?

PIG COMES TO THE RESCUE

PIG

is an open-source technology that

offers a high-level mechanism for parallel programming of MapReduce jobs

to be executed on Hadoop clusters

PIG

IS A PART OF THE HADOOP ECOSYSTEM, IDEAL FOR USE WITH UNSTRUCTURED DATA WHERE

SCHEMAS ARE INCONSISTENT OR UNKNOWN

PIG

PIG DOESN'T REQUIRE DATA TO BE LOADED INTO TABLES FIRST

IT CAN OPERATE ON DATA AS SOON AS IT IS COPIED INTO HDFS

PIG

IT CAN OPERATE ON DATA AS SOON AS IT IS COPIED INTO HDFS

PIG

```
[2008-10-09 00:37:37.011] - 21384 12764 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.152] CHSVSR07 21384 12764 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:39.168] CHSVSR07 21384 12764 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:39.558] - 18568 18792 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.637] - 18900 20176 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.668] - 21572 17944 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:40.308] CHSVSR07 18900 20176 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:40.308] CHSVSR07 18900 20176 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:40.996] CHSVSR07 21572 17944 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:41.012] CHSVSR07 21572 17944 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:41.215] CHSVSR07 18568 18792 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:41.215] CHSVSR07 18568 18792 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:41.980] CHSVSR07 21384 12764 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management
[2008-10-09 00:56:32.214] CHSVSR07 21384 12764 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Manageme
[2008-10-09 00:56:32.292] CHSVSR07 21384 22340 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 18568 18792 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 18900 20176 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 21572 17944 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:58:37.375] - 1140 1164 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.250] CHSVSR07 1140 1164 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:41.265] CHSVSR07 1140 1164 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:41.765] - 1492 1496 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.781] - 1512 1516 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.796] - 1504 1508 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:46.328] CHSVSR07 1140 1164 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management S
[2008-10-09 01:15:25.292] CHSVSR07 1140 1164 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 01:15:25.370] CHSVSR07 1140 1144 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:25.946] CHSVSR07 1492 1496 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.632] CHSVSR07 1512 1516 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.694] CHSVSR07 1504 1508 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:27.396] - 5192 5384 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:28.954] - 7432 6396 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.016] - 6400 7732 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.079] - 5732 6148 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.278] CHSVSR07 7432 6396 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.294] CHSVSR07 7432 6396 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:31.385] CHSVSR07 5192 5384 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management S
[2008-10-09 01:15:56.785] CHSVSR07 7432 8120 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40976 "License Se
[2008-10-09 01:15:56.941] CHSVSR07 7432 8120 SW_RTSPHandler::HandleSetup 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40960 "Session Setup"
[2008-10-09 01:16:01.926] CHSVSR07 7432 5832 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40977 "License Se
[2008-10-09 01:16:01.926] CHSVSR07 7432 5832 SW_RTSPHandler::HandleTeardown 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40961 "Session Teardow
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40976 "License
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_RTSPHandler::HandleSetup 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40960 "Session Setup"
[2008-10-09 06:31:40.632] CHSVSR07 6400 8016 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001_Package 0 40978 "License Abnormal
[2008-10-09 06:31:40.663] CHSVSR07 6400 6340 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_DataConnectionPool::Reconnect - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41543 "Connection to  data
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_ServerAuthenticationTask::Authorize - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41472 "Module executi
[2008-10-09 06:35:40.367] CHSVSR07 5732 5348 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 7864 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 08:33:07.803] CHSVSR07 5732 6508 SW_LicenseConduitLogger::LogMessage 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sessi
[2008-10-09 08:33:07.818] CHSVSR07 5732 6508 SW_RTSPHandler::HandleSetup 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:39:02.202] CHSVSR07 5732 3960 SW_LicenseConduitLogger::LogMessage 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sess
[2008-10-09 08:39:02.218] CHSVSR07 5732 3960 SW_RTSPHandler::HandleSetup 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:44:58.679] CHSVSR07 7432 6492 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40976 "License Session
[2008-10-09 08:44:58.726] CHSVSR07 7432 6492 SW_RTSPHandler::HandleSetup 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40960 "Session Setup"
[2008-10-09 08:45:03.412] CHSVSR07 7432 1528 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40977 "License Session
```

CONSIDER SERVER LOG DATA WHICH HAS NO SCHEMA

CONSIDER THE DATA OF SERVER LOGS WHICH HAS NO SCHEMA

THIS SERVER DATA CAN BE TRANSFORMED INTO DATA WITH PROPER SCHEMA IN PIG

```
[2008-10-09 00:37:37.011] - 21384 12764 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.152] CHSVSR07 21384 12764 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:39.168] CHSVSR07 21384 12764 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:39.558] CHSVSR07 18568 18792 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.558] CHSVSR07 18568 18792 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:39.574] CHSVSR07 18568 18792 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:40.574] CHSVSR07 21384 12764 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management
[2008-10-09 00:37:40.574] CHSVSR07 21384 12764 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 00:37:41.215] CHSVSR07 18568 18792 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:41.980] CHSVSR07 21384 12764 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management
[2008-10-09 00:56:32.214] CHSVSR07 21384 12764 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 00:56:32.292] CHSVSR07 18568 18792 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 18568 18792 SW_SQLDataConnection::Close - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:56:32.573] CHSVSR07 18568 18792 SW_SQLOutputHandler::Close - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:37.375] CHSVSR07 1140 1164 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.250] CHSVSR07 1140 1164 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:58:41.265] CHSVSR07 1140 1164 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:41.765] - 1492 1496 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.781] - 1512 1516 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.796] - 1504 1508 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:46.328] CHSVSR07 1140 1164 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management S
[2008-10-09 01:15:25.292] CHSVSR07 1140 1164 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 01:15:25.370] CHSVSR07 1140 1144 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:25.946] CHSVSR07 1492 1496 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.633] CHSVSR07 1512 1516 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.694] CHSVSR07 1504 1508 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:27.396] - 5192 5384 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:28.954] - 7432 6396 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.016] - 6400 6432 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.079] - 5732 6448 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.278] CHSVSR07 7432 6396 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.294] CHSVSR07 7432 6396 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:31.387] CHSVSR07 5192 5384 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:56.785] CHSVSR07 7432 6128 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40976 "License Se
[2008-10-09 01:15:56.941] CHSVSR07 7432 6128 SW_RTSPHandler::HandleSetup 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40960 "Session Setup"
[2008-10-09 01:16:01.926] CHSVSR07 7432 5832 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40977 "License Se
[2008-10-09 01:16:01.926] CHSVSR07 7432 5832 SW_RTSPHandler::HandleTeardown 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40961 "Session Teardow
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40976 "License
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_RTSPHandler::HandleSetup 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40960 "Session Setup"
[2008-10-09 06:31:40.632] CHSVSR07 6400 3016 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001_Package 0 40978 "License Abnormal
[2008-10-09 06:35:40.632] CHSVSR07 6400 6340 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_DataConnectionPool::Reconnect - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41543 "Connection to  data
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_ServerAuthenticationTask::Authorize - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41472 "Module executi
[2008-10-09 06:35:40.367] CHSVSR07 5732 5340 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 7864 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 08:33:07.803] CHSVSR07 5732 6508 SW_LicenseConduitLogger::LogMessage 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sessi
[2008-10-09 08:33:07.818] CHSVSR07 5732 6508 SW_RTSPHandler::HandleSetup 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:39:02.202] CHSVSR07 5732 3964 SW_LicenseConduitLogger::LogMessage 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sess
[2008-10-09 08:39:02.218] CHSVSR07 5732 3964 SW_RTSPHandler::HandleSetup 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:44:58.679] CHSVSR07 7432 6492 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40976 "License Session
[2008-10-09 08:44:58.726] CHSVSR07 7432 6492 SW_RTSPHandler::HandleSetup 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40960 "Session Setup"
[2008-10-09 08:45:03.412] CHSVSR07 7432 6128 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40977 "License Session
```

TIME-STAMP	SERVER NAME	PID	TID	Module	SESSION ID	PROVIDE	MESSAGE

CONSIDER THE DATA OF SERVER LOGS WHICH HAS NO SCHEMA

EVERY ENTRY IN THE LOG IS SPLIT INTO VARIOUS COLUMNS

```
[2008-10-09 00:37:37.011] - 21184 17944 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.152] CHSVSR07 21184 17944 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:39.168] CHSVSR07 21184 17944 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:39.558] - 1[illegible] 1876[illegible] SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.637] - 1[illegible] 2017[illegible] SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.668] - 2[illegible] 1794[illegible] SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:40.308] CHSVSR07 18568 18792 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:40.308] CHSVSR07 18568 18792 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:40.996] CHSVSR07 21572 17944 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:41.012] CHSVSR07 21572 17944 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:41.215] CHSVSR07 18568 18792 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:41.215] CHSVSR07 18568 18792 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:41.980] CHSVSR07 21384 12764 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management S
[2008-10-09 00:56:32.214] CHSVSR07 21384 12764 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 00:56:32.292] CHSVSR07 21384 22340 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 18568 18792 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 18900 20176 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 21572 17944 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:58:37.375] - 1140 1164 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.250] CHSVSR07 1140 1164 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:58:41.265] CHSVSR07 1140 1164 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:41.765] - 1492 1496 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.781] - 1512 1516 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.796] - 1504 1508 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:46.328] CHSVSR07 1140 1164 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management S
[2008-10-09 01:15:25.292] CHSVSR07 1140 1164 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 01:15:25.370] CHSVSR07 1140 1144 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:25.946] CHSVSR07 1492 1496 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.632] CHSVSR07 1512 1516 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.694] CHSVSR07 1504 1508 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:27.396] - 5192 5[illegible] SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:28.954] - 7432 6[illegible] SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.016] - 6400 7[illegible] SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.079] - 5732 6[illegible] SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.278] CHSVSR07 7432 6396 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.294] CHSVSR07 7432 6396 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:31.385] CHSVSR07 5192 5184 [illegible]
[2008-10-09 01:15:56.785] CHSVSR07 7432 6120 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40976 "License Se
[2008-10-09 01:15:56.941] CHSVSR07 7432 6120 SW_RTSPHandler::HandleSetup 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40960 "Session Setup"
[2008-10-09 01:16:01.926] CHSVSR07 7432 5832 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40977 "License Se
[2008-10-09 01:16:01.926] CHSVSR07 7432 5832 SW_RTSPHandler::HandleTeardown 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40961 "Session Teardow
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40976 "License
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_RTSPHandler::HandleSetup 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40960 "Session Setup"
[2008-10-09 06:31:40.632] CHSVSR07 6400 8016 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001_Package 0 40978 "License Abnormal
[2008-10-09 06:31:40.663] CHSVSR07 6400 6340 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_DataConnectionPool::Reconnect - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41543 "Connection to  data
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_ServerAuthenticationTask::Authorize - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41472 "Module executi
[2008-10-09 06:35:40.367] CHSVSR07 5732 5348 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 7864 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 08:33:07.803] CHSVSR07 5732 6508 SW_LicenseConduitLogger::LogMessage 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sessi
[2008-10-09 08:33:07.818] CHSVSR07 5732 6508 SW_RTSPHandler::HandleSetup 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:39:02.202] CHSVSR07 5732 3960 SW_LicenseConduitLogger::LogMessage 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sess
[2008-10-09 08:39:02.218] CHSVSR07 5732 3960 SW_RTSPHandler::HandleSetup 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:44:58.679] CHSVSR07 7432 6492 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40976 "License Session
[2008-10-09 08:44:58.726] CHSVSR07 7432 6492 SW_RTSPHandler::HandleSetup 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40960 "Session Setup"
[2008-10-09 08:45:03.412] CHSVSR07 7432 1528 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40977 "License Session
```

TIME-STAMP	SERVER NAME	PID	TID	Module	SESSION ID	PROVIDE	MESSAGE

CONSIDER THE DATA OF SERVER LOGS WHICH HAS NO SCHEMA

DIFFERENT ERROR MESSAGES WILL HAVE DIFFERENT STRUCTURES

```
[2008-10-09 00:37:37.011] - 21384 12764 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.152] CHSVSR07 21384 12764 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:39.168] CHSVSR07 21384 12764 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:39.558] - 5020 5176 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.637] - 5020 5176 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.668] - 5176 5944 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:40.308] CHSVSR07 21384 12764 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:40.308] CHSVSR07 21384 12764 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:40.996] CHSVSR07 21384 12764 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:41.012] CHSVSR07 21372 17944 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:41.215] CHSVSR07 18568 18792 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:41.215] CHSVSR07 18568 18792 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:41.980] CHSVSR07 21384 12764 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management S
[2008-10-09 00:56:32.214] CHSVSR07 21384 12764 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 00:56:32.292] CHSVSR07 21384 22340 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 18568 18792 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 18900 20176 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] CHSVSR07 21572 17944 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:58:37.375] - 1140 1164 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.250] CHSVSR07 1140 1164 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:58:41.265] CHSVSR07 1140 1164 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:41.765] - 1492 1496 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.781] - 1512 1516 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.796] - 1504 1508 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:46.328] CHSVSR07 1140 1164 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management S
[2008-10-09 01:15:25.292] CHSVSR07 1140 1164 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 01:15:25.370] CHSVSR07 1140 1144 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:25.946] CHSVSR07 1492 1496 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.632] CHSVSR07 1512 1516 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.694] CHSVSR07 1504 1508 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:27.396] - 5192 5384 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:28.954] - 7432 6396 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.016] - 6400 7732 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.079] - 5732 6148 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.278] CHSVSR07 7432 6396 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.294] CHSVSR07 7432 6396 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:31.385] CHSVSR07 5192 5184 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:56.785] CHSVSR07 7432 6120 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40976 "License Se
[2008-10-09 01:15:56.941] CHSVSR07 7432 6120 SW_RTSPHandler::HandleSetup 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40960 "Session Setup"
[2008-10-09 01:16:03.926] CHSVSR07 7432 5832 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40977 "License Se
[2008-10-09 01:16:03.926] CHSVSR07 7432 5832 SW_RTSPHandler::HandleTeardown 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40961 "Session Teardow
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40976 "License
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_RTSPHandler::HandleSetup 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40960 "Session Setup"
[2008-10-09 06:31:40.632] CHSVSR07 6400 8016 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001_Package 0 40978 "License Abnormal
[2008-10-09 06:31:40.663] CHSVSR07 6400 6340 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_DataConnectionPool::Reconnect - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41543 "Connection to  data
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_ServerAuthenticationTask::Authorize - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41472 "Module executi
[2008-10-09 06:35:40.367] CHSVSR07 5732 5348 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 7864 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 08:33:07.803] CHSVSR07 5732 6508 SW_LicenseConduitLogger::LogMessage 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sessi
[2008-10-09 08:33:07.818] CHSVSR07 5732 6508 SW_RTSPHandler::HandleSetup 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:39:02.202] CHSVSR07 5732 3960 SW_LicenseConduitLogger::LogMessage 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sess
[2008-10-09 08:39:02.218] CHSVSR07 5732 3960 SW_RTSPHandler::HandleSetup 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:44:58.679] CHSVSR07 7432 6492 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40976 "License Session
[2008-10-09 08:44:58.726] CHSVSR07 7432 6492 SW_RTSPHandler::HandleSetup 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40960 "Session Setup"
[2008-10-09 08:45:03.412] CHSVSR07 7432 1528 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40977 "License Session
```

TIME-STAMP	SERVER NAME	PID	TID	Module	SESSION ID	PROVIDE	MESSAGE

CONSIDER THE DATA OF SERVER LOGS WHICH HAS NO SCHEMA

THIS IS VERY SIMPLE COMPARED TO THE COMPLEXITY WE WILL SEE IN WEBSITE LOGS

```
[2008-10-09 00:37:37.011] - 21384 12764 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.152] CHSVSR07 21384 12764 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:39.168] CHSVSR07 21384 12764 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:39.558] - 18568 18792 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.637] - 18900 20176 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:39.668] - 21572 17944 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:37:40.308] CHSVSR07 18900 [illegible] SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:40.308] CHSVSR07 18900 [illegible] SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:40.996] CHSVSR07 21572 [illegible] SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:41.012] CHSVSR07 21572 [illegible] SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:41.215] CHSVSR07 18568 18792 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database:
[2008-10-09 00:37:41.215] CHSVSR07 18568 18792 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:37:41.980] CHSVSR07 [illegible] SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management S
[2008-10-09 00:56:32.214] CHSVSR07 [illegible] SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 00:56:32.292] - [illegible] SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] - [illegible] SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:56:32.573] - [illegible] SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 00:58:37.375] - [illegible] SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.250] CHSVSR07 1140 1164 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:41.265] CHSVSR07 1140 1164 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:41.765] - 1492 1496 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.781] - 1512 1516 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:41.796] - 1504 1508 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.234] CHSVSR07 1512 1516 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.234] CHSVSR07 1504 1508 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 00:58:43.359] CHSVSR07 1492 1496 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 00:58:46.328] CHSVSR07 1140 1164 SW_SystemDispatcher::init - - - - 0 44951 "Successfully started Microsoft System Center Application Virtualization Management S
[2008-10-09 01:15:25.292] CHSVSR07 1140 1164 SW_SystemDispatcher::fini - - - - 0 44952 "Successfully shut down Microsoft System Center Application Virtualization Management
[2008-10-09 01:15:25.370] CHSVSR07 1140 1144 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:25.946] CHSVSR07 1492 1496 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.632] CHSVSR07 1512 1516 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:26.694] CHSVSR07 1504 1508 SW_MessageHandler::Close - - - - 5 65535 "Shutdown complete."
[2008-10-09 01:15:27.396] - 5192 5384 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:28.673] CHSVSR07 5192 5384 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:28.954] - 7432 6396 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.016] - 6400 7732 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.079] - 5732 6148 SW_MessageHandler::Open - - - - 5 65535 "Initialization complete."
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:29.904] CHSVSR07 6400 7732 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.278] CHSVSR07 7432 6396 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.294] CHSVSR07 7432 6396 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLDataConnection::Open - - - - 2 41494 "Failed to establish a connection to the data source: (Server: CHSSQL01, Database: S
[2008-10-09 01:15:30.356] CHSVSR07 5732 6148 SW_SQLOutputHandler::Open - - - - 1 44910 "Failed to connect to data source."
[2008-10-09 01:15:31.385] CHSVSR07 5192 5384 [illegible]
[2008-10-09 01:15:56.785] CHSVSR07 7432 6120 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40976 "License Se
[2008-10-09 01:15:56.941] CHSVSR07 7432 6120 SW_RTSPHandler::HandleSetup 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40960 "Session Setup"
[2008-10-09 01:16:01.926] CHSVSR07 7432 5832 SW_LicenseConduitLogger::LogMessage 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40977 "License Se
[2008-10-09 01:16:01.926] CHSVSR07 7432 5832 SW_RTSPHandler::HandleTeardown 1956138080 "Default Provider" "Justin Zarb" TECHDES.001/TECHDES.001.sft 0 40961 "Session Teardow
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40976 "License
[2008-10-09 01:20:32.766] CHSVSR07 6400 3444 SW_RTSPHandler::HandleSetup 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 0 40960 "Session Setup"
[2008-10-09 06:31:40.632] CHSVSR07 6400 8016 SW_LicenseConduitLogger::LogMessage 1897464568 "Default Provider" "Justin Zarb" SCVMMCON.001_Package 0 40978 "License Abnormal
[2008-10-09 06:31:40.663] CHSVSR07 6400 6340 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_DataConnectionPool::Reconnect - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41543 "Connection to  data
[2008-10-09 06:35:40.367] CHSVSR07 5732 3960 SW_ServerAuthenticationTask::Authorize - "Default Provider" "Justin Zarb" SCVMMCON.001/SCVMMCON.001.sft 2 41472 "Module executi
[2008-10-09 06:35:40.367] CHSVSR07 5732 5348 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 6572 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_DataConnectionPool::Reconnect - "Default Provider" ecoe - 2 41543 "Connection to  data store on host CHSSQL01\BSQSTEPS faile
[2008-10-09 06:48:44.656] CHSVSR07 7432 7864 SW_SQLOutputHandler::HandleMessage - - - - 1 44911 "Create record failed with error [1]."
[2008-10-09 06:48:44.702] CHSVSR07 6400 5872 SW_ServerAuthenticationTask::Authorize - "Default Provider" ecoe - 2 41472 "Module execution failed."
[2008-10-09 08:33:07.803] CHSVSR07 5732 6508 SW_LicenseConduitLogger::LogMessage 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sessi
[2008-10-09 08:33:07.818] CHSVSR07 5732 6508 SW_RTSPHandler::HandleSetup 231148567 "Default Provider" Swelshman SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:39:02.202] CHSVSR07 5732 3960 SW_LicenseConduitLogger::LogMessage 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40976 "License Sess
[2008-10-09 08:39:02.218] CHSVSR07 5732 3960 SW_RTSPHandler::HandleSetup 2076584603 "Default Provider" YWESTWOOD SIMSNET.005/SIMSNET.005_7.sft 0 40960 "Session Setup"
[2008-10-09 08:44:58.679] CHSVSR07 7432 6492 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40976 "License Session
[2008-10-09 08:44:58.726] CHSVSR07 7432 6492 SW_RTSPHandler::HandleSetup 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40960 "Session Setup"
[2008-10-09 08:45:03.412] CHSVSR07 7432 1528 SW_LicenseConduitLogger::LogMessage 1008015806 "Default Provider" DLANEY ADRDR811.001/ADRDR811.001.sft 0 40977 "License Session
```

TIME-STAMP	SERVER NAME	PID	TID	Module	SESSION ID	PROVIDE	MESSAGE

PIG

COMES WITH A LANGUAGE, PIG LATIN, FOR DOING THIS KIND OF DATA PROCESSING

DON'T WORRY, THIS IS NOT THE SYNTAX OF PIG LATIN!

PIG LATIN

IS A PROCEDURAL DATA FLOW LANGUAGE

IT IMPLIES THAT DATA FROM ONE OR MORE INPUTS

CAN BE PROCESSED, READ,

PIG LATIN

IS A PROCEDURAL DATA FLOW LANGUAGE

IT IMPLIES THAT DATA FROM ONE OR MORE INPUTS CAN BE PROCESSED, READ,

AND THEN STORED TO ONE OR MORE OUTPUTS IN PARALLEL

PIG LATIN

IS A PROCEDURAL DATA FLOW LANGUAGE

→ THERE ARE NO IF STATEMENTS AND FOR LOOPS LIKE WE SEE IN OBJECT ORIENTED OR FUNCTIONAL LANGUAGES

PIG LATIN

IS A PROCEDURAL DATA FLOW LANGUAGE

→ IT DOES HAVE MOST OF THE USUAL DATA PROCESSING CONCEPTS THAT SQL HAS

THE SYNTAX WILL BE PRETTY DIFFERENT THOUGH

PIG LATIN

IT DOES HAVE MOST OF THE USUAL DATA PROCESSING CONCEPTS THAT SQL HAS

THE SYNTAX WILL BE PRETTY DIFFERENT THOUGH

SQL

```
SELECT function(column_name)
FROM table GROUP BY column_name;
```

PIG LATIN

```
FOREACH (GROUP table BY column_name)
GENERATE function(table.column_name);
```

WE WILL COVER ALL OF IT IN DETAIL LATER

PIG LATIN

LOOKS VERY SIMILAR TO SQL

BUT FUNDAMENTALLY THEY ARE VERY DIFFERENT

PIG LATIN

SQL IS A QUERY LANGUAGE
IT IS USED IN QUERYING

PIG LATIN IS A DATA-FLOW LANGUAGE
IT FOCUSES ON DATA FLOW

PIG LATIN

IN SQL, YOU DON'T WORRY ABOUT HOW THE QUERIES ARE EXECUTED

IN PIG LATIN, THE USER DESCRIBES EXACTLY HOW TO PROCESS THE DATA

PIG LATIN

IN SQL, YOU DON'T WORRY ABOUT HOW THE QUERIES ARE EXECUTED

PIG LATIN CAN BE USED AS A SQL SUBSTITUTE

IN PIG LATIN, YOU HAVE TO BE MORE EXACTLY HOW YOU WANT TO PROCESS THE DATA

PIG LATIN

PIG LATIN CAN BE USED AS A SQL SUBSTITUTE

BUT, PIG LATIN VARIES TO A GREAT EXTENT AND THUS IT TAKES SOME TIME TO MASTER PIG

HIVEQL SHOULD BE USED IF THE PURPOSE OF DATA EXTRACTION IS ANALYSIS

PIG LATIN

IN SQL, YOU DESCRIBE THE OUTPUT YOU HAVE QUERIES

PIG IS DESIGNED WITH A LONG SERIES OF DATA OPERATIONS IN MIND

IN PIG LATIN, THE USER DESCRIBES EXACTLY HOW TO PROCESS THE DATA

PIG LATIN

PIG IS DESIGNED WITH A LONG SERIES OF DATA OPERATIONS IN MIND

A PRIMARY USE CASE OF PIG IS
TRADITIONAL EXTRACT TRANSFORM LOAD(ETL)
DATA PIPELINES

PIG LATIN

A PRIMARY USE CASE OF PIG IS
TRADITIONAL EXTRACT TRANSFORM LOAD(ETL) DATA PIPELINES

WEBSITE DATA LOGS, SERVER DATA LOGS ALL CONTAIN HUMUNGOUS AMOUNT OF SUPER VALUABLE DATA IN UNSTRUCTURED FORMATS

PIG LATIN

WEBSITE DATA LOGS, SERVER DATA LOGS ALL CONTAIN HUMUNGOUS AMOUNT OF SUPER VALUABLE DATA IN UNSTRUCTURED FORMATS

PIG IS USED

- TO CLEAN THESE RECORDS WITH INCONSISTENT AND UNKNOWN SCHEMA

- TO PRECOMPUTE COMMON AGGREGATES BEFORE PUTTING INTO DATA WAREHOUSE

PIG

is an open-source technology that

offers a high-level mechanism for parallel programming of MapReduce jobs

to be executed on Hadoop clusters

PIG

is an open-source technology that

offers a high-level mechanism for parallel programming of MapReduce jobs

to be executed on Hadoop clusters

PIG

HADOOP

HDFS | MapReduce | YARN

PIG RUNS ON HADOOP

PIG

HADOOP

HDFS | MapReduce | YARN

PIG READS INPUT FILES FROM HDFS,
USE HDFS TO STORE INTERMEDIATE FILES
AND WRITES ITS OUTPUT TO HDFS

PIG

HADOOP

HDFS | MapReduce | YARN

PIG MANAGES DECOMPOSING THE OPERATIONS INTO MAPREDUCE JOBS

PIG

HADOOP

HDFS | MapReduce | YARN

PIG PROVIDES SEVERAL ADVANTAGES OVER USING MAPREDUCE DIRECTLY

PIG

HADOOP

HDFS | MapReduce | YARN

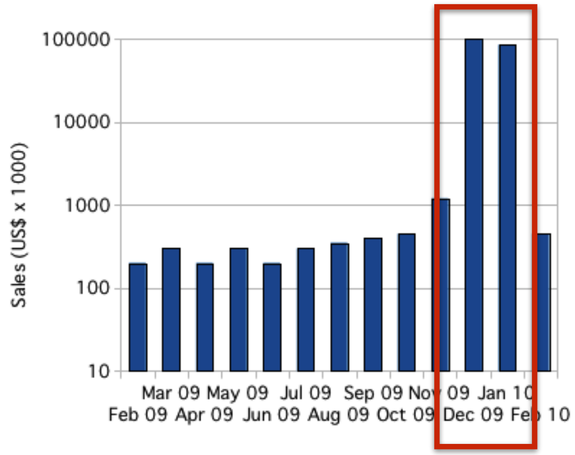
PIG PROVIDES SOME COMPLEX , NON-TRIVIAL IMPLEMENTATIONS OF STANDARD DATA OPERATIONS WHICH GIVES GREAT RETURNS IN EFFICIENCY

PIG

PIG PROVIDES SOME COMPLEX , NON-TRIVIAL IMPLEMENTATIONS OF STANDARD DATA OPERATIONS WHICH GIVES GREAT RETURNS IN EFFICIENCY

CONSIDER THE CASE, WHERE A JOIN FUNCTION IS TO BE PERFORMED ON A SKEWED DATA SET

LET US ASSUME THE JOIN IS DONE ON MONTH KEY

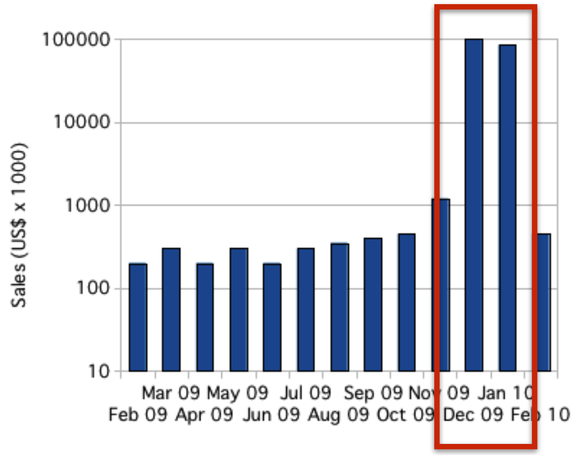


PIG

PIG PROVIDES SOME COMPLEX , NON-TRIVIAL IMPLEMENTATIONS OF STANDARD DATA OPERATIONS WHICH GIVES GREAT RETURNS IN EFFICIENCY

LET US ASSUME THE JOIN IS DONE ON MONTH KEY

SOME REDUCERS WILL GET 10 OR MORE TIMES THE DATA THAN THE OTHER REDUCERS

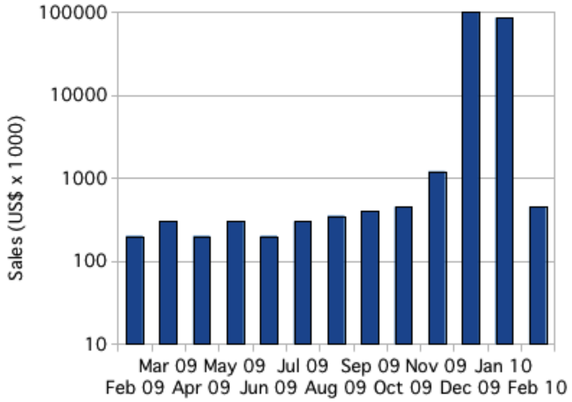


PIG

PIG PROVIDES SOME COMPLEX , NON-TRIVIAL IMPLEMENTATIONS OF STANDARD DATA OPERATIONS WHICH GIVES GREAT RETURNS IN EFFICIENCY

LET US ASSUME THE JOIN IS DONE ON MONTH KEY

PIG HAS JOIN AND ORDER BY OPERATIONS THAT WILL REBALANCE THE REDUCERS



PIG

PIG PROVIDES SOME COMPLEX , NON-TRIVIAL IMPLEMENTATIONS OF STANDARD DATA OPERATIONS WHICH GIVES GREAT RETURNS IN EFFICIENCY

WRITING ALL THIS IN MAPREDUCE OR JAVA WILL BE VERY TIME CONSUMING

PIG

HADOOP

HDFS | MapReduce | YARN

PIG CAN ALSO ANALYSE THE PIG LATIN SCRIPT AND UNDERSTAND THE DATA FLOW

PIG

HADOOP

HDFS | MapReduce | YARN

IT CAN DO EARLY ERROR CHECKING AND OPTIMISATIONS WHICH MAPREDUCE CAN'T

PIG OVER MAPREDUCE

PIG PROVIDES SOME COMPLEX , NON-TRIVIAL IMPLEMENTATIONS OF STANDARD DATA OPERATIONS WHICH GIVES GREAT RETURNS IN EFFICIENCY

IT CAN DO EARLY ERROR CHECKING AND OPTIMISATIONS WHICH MAPREDUCE CAN'T

PIG OVER MAPREDUCE

PIG PROVIDES SOME COMPLEX , NON-TRIVIAL IMPLEMENTATIONS OF STANDARD DATA OPERATIONS WHICH GIVES GREAT RETURNS IN EFFICIENCY

WHERE CAN THIS BE USEFUL?

IT CAN DO EARLY ERROR CHECKING AND OPTIMISATIONS WHICH MAPREDUCE CAN'T

PIG

SUPPOSE YOU ARE A RESEARCHER WORKING IN THE FIELD OF SEISMOLOGY

YOU ARE TRYING TO MAKE HIGH-PRECISION AND SENSITIVE DETECTORS

TO PREDICT EARTHQUAKES

PIG

SUPPOSE YOU ARE A RESEARCHER WORKING IN THE FIELD OF SEISMOLOGY

YOU ARE TRYING TO MAKE HIGH-PRECISION AND SENSITIVE DETECTORS

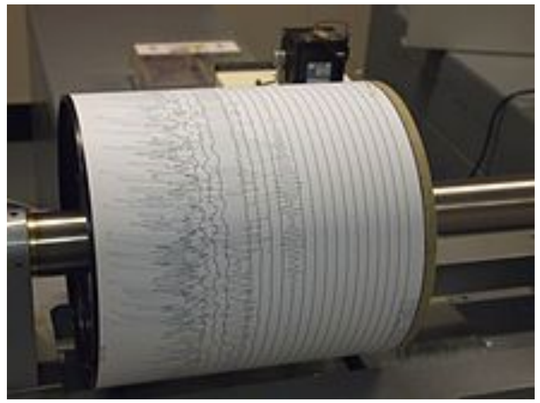
TO DO THIS, THE RESEARCHER HAS
TO WORK WITH HUGE SEISMIC DATA

PIG

SUPPOSE YOU ARE A RESEARCHER WORKING IN THE FIELD OF SEISMOLOGY

YOU ARE TRYING TO MAKE HIGH-PRECISION AND SENSITIVE DETECTORS

THE SEISMIC DATA THAT THEY STUDY IS CALLED SEISMOGRAM

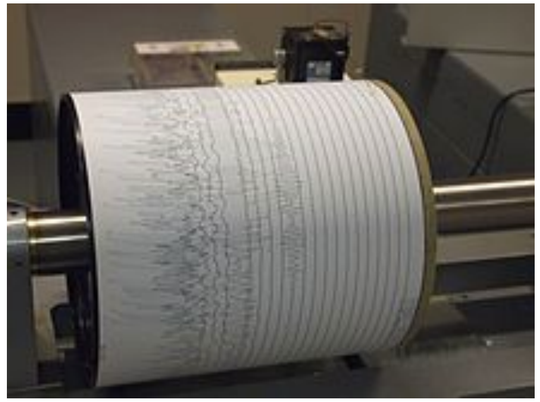


PIG

SUPPOSE YOU ARE A RESEARCHER WORKING IN THE FIELD OF SEISMOLOGY

YOU ARE TRYING TO MAKE HIGH-PRECISION AND SENSITIVE DETECTORS

THE SEISMOGRAMS ARE DIGITAL TIME SERIES OF GROUND MOTION RECORDED BY SEISMOMETERS INSTALLED AT THE SEISMIC STATIONS



PIG

SUPPOSE YOU ARE A RESEARCHER WORKING IN THE FIELD OF SEISMOLOGY

YOU ARE TRYING TO MAKE HIGH-PRECISION AND SENSITIVE DETECTORS

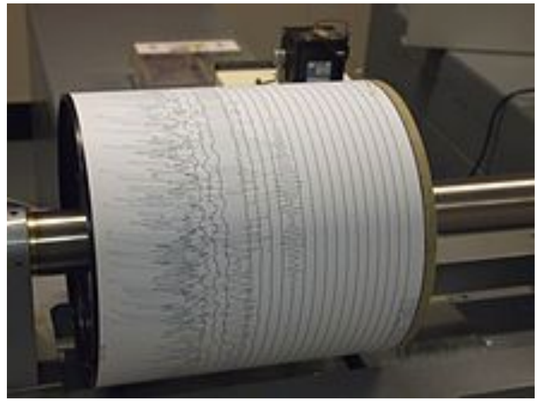
A TECHNIQUE CALLED WAVEFORM CROSS CORRELATION IS APPLIED ON THESE SEISMOGRAMS

PIG

SUPPOSE YOU ARE A RESEARCHER WORKING IN THE FIELD OF SEISMOLOGY

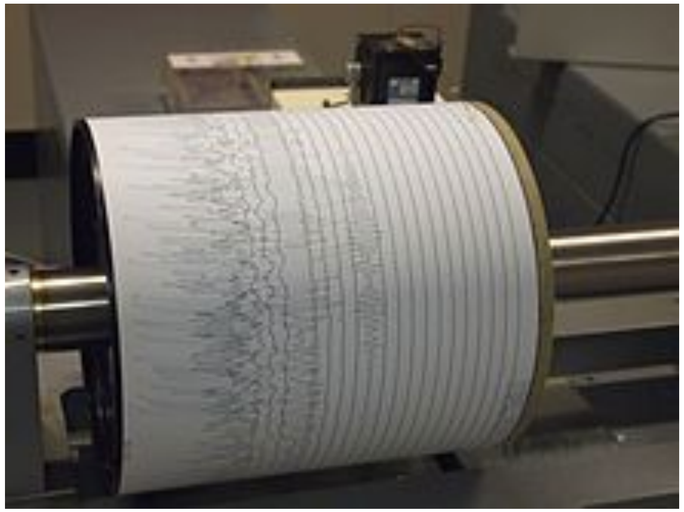
A TECHNIQUE CALLED WAVEFORM CROSS CORRELATION IS APPLIED ON THESE SEISMOGRAMS

THE DATASET HAS OVER 300 MILLION SEISMOGRAMS



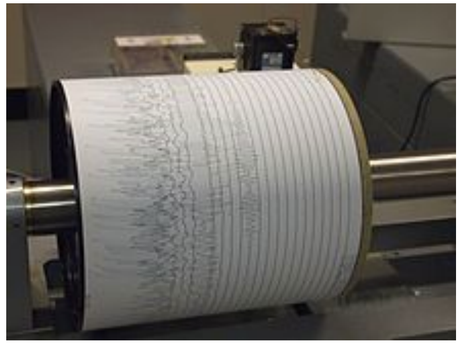
THE DATASET HAS OVER 300 MILLION SEISMOGRAMS

AND



CORRELATIONS BETWEEN VECTORS WITH MILLIONS OF ELEMENTS NEED TO BE FOUND

THE DATASET HAS OVER 300 MILLION SEISMOGRAMS



AND

CORRELATIONS BETWEEN VECTORS WITH MILLIONS OF ELEMENTS NEED TO BE FOUND

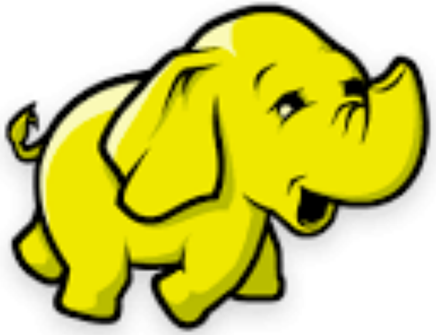
THE COMPLEXITY WILL BE
O(N X N)
=O(300M X300M)

THE FIRST ATTEMPT INVOLVED 4 SERVERS WITH 44 CORES AND 613 GB OF RAM

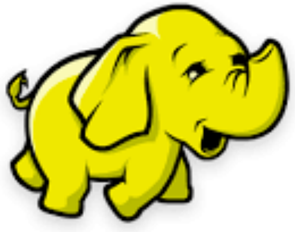
50 TB OF WAVEFORM DATA MANAGED BY A 2-HEAD HITACHI FILE SERVER WAS PROCESSED IN

42 DAYS

CLEARLY, HADOOP COULD HELP



TO THE RESCUE

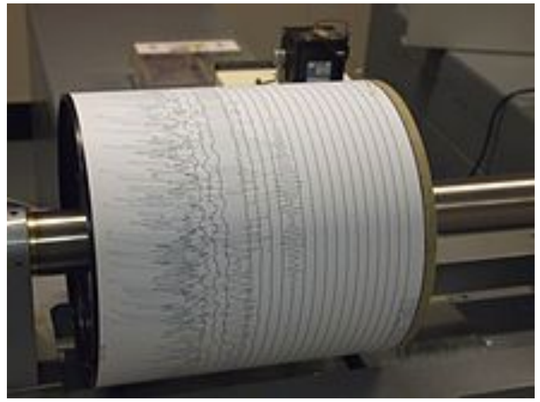


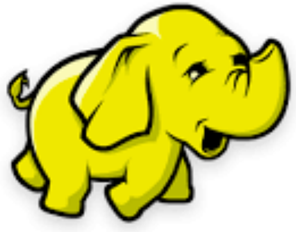
TO THE RESCUE

THE RESEARCHER CAN RUN A SERIES OF MAPREDUCE JOBS ON A HADOOP CLUSTER

BUT WILL THAT BE ENOUGH?

THE COMPLEXITY WAS O(300M X300M)

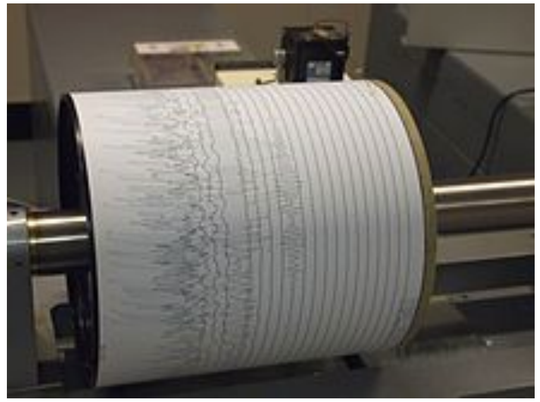




COMES TO THE RESCUE

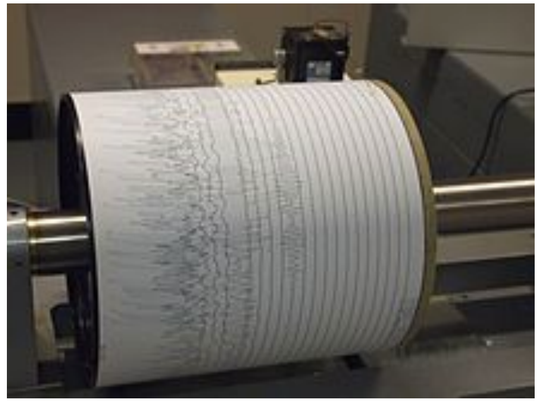
THE RESEARCHERS FURTHER OPTIMISED THESE MAPREDUCE JOBS

USING



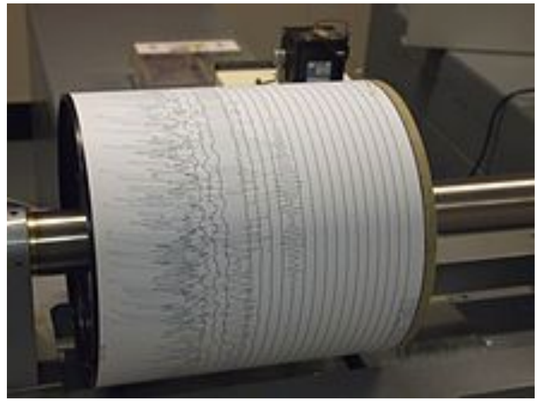
COMES TO THE RESCUE

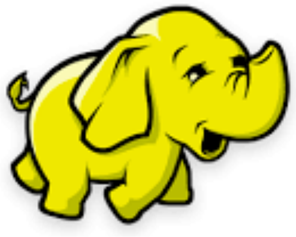
PIG DATA FLOWS AND THEIR IMPLEMENTATIONS ARE AT CONCEPTUALLY HIGHER LEVEL THAN THE SERIES OF MAPREDUCE JOBS



COMES TO THE RESCUE

THE RESEARCHER USED PIG FOR THE IMPLEMENTATION OF THE CORRELATOR TO SPEED UP THE CALCULATION TIME

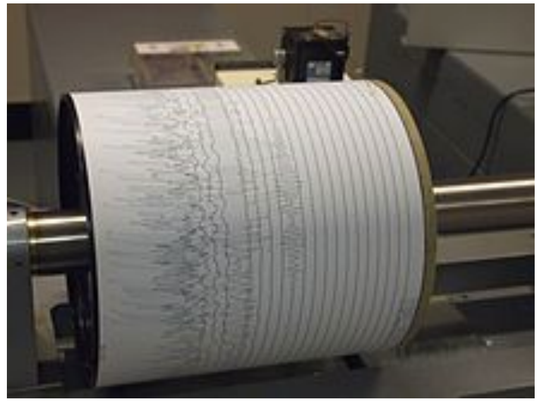




&

COMES TO THE RESCUE

IMPROVED THE PERFORMANCE OF THE SYSTEM BY A FACTOR OF 19 ON THE GIVEN DATASET



PIG

CAN EXECUTE ITS HADOOP JOBS NOT JUST ON MAPREDUCE BUT ALSO ON

APACHE TEZ

APACHE SPARK

PIG & HBASE

HBASE IS NON-RELATIONAL DISTRIBUTED DATABASE

IT RUNS ON TOP OF HADOOP AND IS WRITTEN IN JAVA

PIG & HBASE

HBASE IS COLUMN-ORIENTED KEY-VALUE DATA STORE

PRODUCT ID	CATEGORY	PRODUCT_NAME	PRICE	SIZE
1	Book	Bible	$7	
2	Mobile	Moto G4	$300	
3	T-Shirt	Myntra	$8	M

PRODUCT ID	ATTRIBUTE	ATTRIBUTE VALUE
1	CATEGORY	Book
2	CATEGORY	Mobile
3	CATEGORY	T-Shirt
1	PRODUCT_NAME	Bible
2	PRODUCT_NAME	Moto G4
3	PRODUCT_NAME	Myntra
1	PRICE	$7
2	PRICE	$300
3	PRICE	$8
3	SIZE	M

PIG & HBASE

PRODUCT ID	CATEGORY	PRODUCT_NAME	PRICE	SIZE
1	Book	Bible	$7	
2	Mobile	Moto G4	$300	
3	T-Shirt	Myntra	$8	M

PRODUCT ID	ATTRIBUTE	ATTRIBUTE VALUE
1	CATEGORY	Book
2	CATEGORY	Mobile
3	CATEGORY	T-Shirt
1	PRODUCT_NAME	Bible
2	PRODUCT_NAME	Moto G4
3	PRODUCT_NAME	Myntra
1	PRICE	$7
2	PRICE	$300
3	PRICE	$8
3	SIZE	M

HBASE IS HANDY WHEN THE DATA CONTAINS

TOO MANY (AND DYNAMICALLY CHANGING!) COLUMNS

PIG & HBASE

PRODUCT ID	CATEGORY	PRODUCT_NAME	PRICE	SIZE
1	Book	Bible	$7	
2	Mobile	Moto G4	$300	
3	T-Shirt	Myntra	$8	M

PRODUCT ID	ATTRIBUTE	ATTRIBUTE VALUE
1	CATEGORY	Book
2	CATEGORY	Mobile
3	CATEGORY	T-Shirt
1	PRODUCT_NAME	Bible
2	PRODUCT_NAME	Moto G4
3	PRODUCT_NAME	Myntra
1	PRICE	$7
2	PRICE	$300
3	PRICE	$8
3	SIZE	M

HBASE IS HANDY WHEN THESE ATTRIBUTES ARE DYNAMIC

CONSIDER THE ATTRIBUTE SIZE HERE WHICH APPLIES ONLY TO CERTAIN PRODUCT CATEGORY

PIG & HBASE

HBASE IS WELL-SUITED FOR FASTER READ AND WRITE OPERATIONS ON LARGE DATASETS WITH HIGH THROUGHPUT AND LOW INPUT/OUTPUT LATENCY

PIG & HBASE

HBASE IS USED BY SEVERAL MAJOR TECH FIRMS

facebook

LinkedIn

PIG & HBASE

PIG WAS NAMED BECAUSE ITS CREATORS FELT IT HAD SOME PORCINE ATTRIBUTES

PIGS ARE OMNIVOROUS

PIG CAN OPERATE ON ANY TYPE OF DATA

PIG CAN OPERATE ON DATA THAT LIES IN HBASE

PIG & HBASE

PIG PROVIDES HBASESTORAGE (LOAD FUNCTION)TO READ DATA FROM AND WRITE DATA TO HBASE TABLES

IT IS NOT AS FAST AS LOADING DATA FROM HDFS

PIG VS

PIG VS

HIVE AND PIG SEEM TO HAVE SIMILAR APPLICATIONS AND FUNCTIONALITY

LEADING FOLKS TO WONDER

HOW DO THEY STACK UP?

PIG VS

TO (OVER-)SIMPLIFY A BIT

DATA FROM TECH SYSTMS

ETL

USING PIG

DATA WAREHOUSE

REPORTING

USING HIVE

DATA FROM TECH SYSTMS

ETL

USING PIG

DATA WAREHOUSE

REPORTING

USING HIVE

DATA FROM TECH SYSTMS

ETL

USING PIG

DATA WAREHOUSE

REPORTING

USING HIVE

PIG IS USED BY DEVELOPERS

HIVE IS USED BY ANALYSTS

DATA FROM TECH SYSTMS

ETL

USING PIG

DATA WAREHOUSE

REPORTING

USING HIVE

PIG HAS A PROCEDURAL DATA FLOW LANGUAGE

HIVE HAS A DECLARATIVE SQL LIKE LANGUAGE

PIG VS

TO (OVER-)SIMPLIFY A BIT

DATA FROM TECH SYSTMS

ETL

USING PIG

DATA WAREHOUSE

REPORTING

USING HIVE