Hadoop监控

### 守护进程

Zookeeper

当半数以上节点可用时整个集群仍然是可用的，重启某个节点成功后，该节点会自动加入整个集群，并保持状态同步。

zkServer.sh status || zkServer.sh start

NameNode

当NameNode以HA模式启动时，默认状态是standby，NameNode会加载本地fsimage和JournalNode集群上的editlog来恢复自己的内存文件系统。

hdfs haadmin -getServiceState serviceId || hadoop-daemon.sh start namenode

ZKFC

负责监控本地NameNode健康状况以及自动主备选举。

[[ `ps aux | grep DFSZKFailoverController | grep -v grep | wc -l` -eq 0 ]] && hadoop-daemon.sh start zkfc

JournalNode

active NameNode写入editlog，standby NameNode定时从中取出并合并。

[[ `ps aux | grep JournalNode | grep -v grep | wc -l` -eq 0 ]] && hadoop-daemon.sh start journalnode

ResourceManager

负责集群资源的统一管理和分配。

yarn rmadmin -getServiceState serviceId || yarn-daemon.sh start resourcemanager

NodeManager

上传本机资源信息到ResourceManager。

[[ `ps aux | grep NodeManager | grep -v grep | wc -l` -eq 0 ]] && yarn-daemon.sh start nodemanager

DataNode

[[ `ps aux | grep DataNode | grep -v grep | wc -l` -eq 0 ]] && hadoop-daemon.sh start datanode

JobHistoryServer

查看MapReduce历史任务。

[[ `ps aux | grep JobHistoryServer | grep -v grep | wc -l` -eq 0 ]] && mr-jobhistory-daemon.sh start historyserver

HMaster

[[ `ps aux | grep HMaster | grep -v grep | wc -l` -eq 0 ]] && hbase-daemon.sh start master

HRegionServer

[[ `ps aux | grep HRegionServer | grep -v grep | wc -l` -eq 0 ]] && hbase-daemon.sh start regionserver

HiveMetaStore

Hive元数据服务。

[[ `ps aux | grep HiveMetaStore | grep -v grep | wc -l` -eq 0 ]] && nohup hive --service metastore

HiveServer2

Hive查询服务。

[[ `ps aux | grep HiveServer2 | grep -v grep | wc -l` -eq 0 ]] && nohup hiveserver2

Spark Master

[[ `ps aux | grep master.Master | grep -v grep | wc -l` -eq 0 ]] && start-master.sh

Spark Worker

[[ `ps aux | grep worker.Worker | grep -v grep | wc -l` -eq 0 ]] && start-slave.sh spark://master1:7077,master2:7077

Spark HistoryServer

[[ `ps aux | grep history.HistoryServer | grep -v grep | wc -l` -eq 0 ]] && start-history-server.sh

### 监控告警

过载告警

失效告警

### 自带监控

Hadoop

NameNode: http://hostname:50070

ResourceManager: <http://hostname:8088>

JobHistoryServer: http://hostname:19888/jobhistory

Hbase

Master: <http://hostname:16010>

RegionServer: http://hostname:16030

Spark

Master: <http://hostname:8080>

Worker: <http://hostname:8081>

Driver: http://hostname:4040

### Ganglia

Hadoop

hadoop-metrics2.properties

\*.period=10

\*.sink.ganglia.class=org.apache.hadoop.metrics2.sink.ganglia.GangliaSink31

\*.sink.ganglia.supportsparse=true

\*.sink.ganglia.slope=jvm.metrics.gcCount=zero,jvm.metrics.memHeapUsedM=both

\*.sink.ganglia.dmax=jvm.metrics.threadsBlocked=70,jvm.metrics.memHeapUsedM=40

# Metrics filter

\*.source.filter.class=org.apache.hadoop.metrics2.filter.RegexFilter

\*.record.filter.class=${\*.source.filter.class}

\*.metric.filter.class=${\*.source.filter.class}

# Warning: this must be an address of gmond mentioned in gmetad's sources directive

namenode.sink.ganglia.servers=localhost:8649

namenode.sink.ganglia.source.filter.exclude=rpcdetailed

namenode.sink.ganglia.record.filter.exclude=rpcdetailed

namenode.sink.ganglia.metric.filter.exclude= \_([0-9]+)-([0-9]+)

datanode.sink.ganglia.servers=localhost:8649

resourcemanager.sink.ganglia.servers=localhost:8649

nodemanager.sink.ganglia.servers=localhost:8649

mrappmaster.sink.ganglia.servers=localhost:8649

jobhistoryserver.sink.ganglia.servers=localhost:8649

Hbase

hadoop-metrics2-hbase.properties

\*.period=10

\*.sink.ganglia.class=org.apache.hadoop.metrics2.sink.ganglia.GangliaSink31

# Metrics filter

\*.source.filter.class=org.apache.hadoop.metrics2.filter.RegexFilter

\*.record.filter.class=${\*.source.filter.class}

\*.metric.filter.class=${\*.source.filter.class}

# Warning: this must be an address of gmond mentioned in gmetad's sources directive

hbase.sink.ganglia.servers=localhost:8649

hbase.sink.ganglia.source.filter.exclude=metricssystem

hbase.sink.ganglia.record.filter.exclude=AssignmentManger|Balancer|FileSystem|Regions|WAL

hbase.sink.ganglia.metric.filter.exclude=.\*\_(min|max|median|percentile)

### 相关资料

[1] <http://zookeeper.apache.org/doc/r3.4.8/zookeeperAdmin.html#sc_supervision>

[2] <http://hadoop.apache.org/docs/r2.7.2/hadoop-project-dist/hadoop-hdfs/HDFSHighAvailabilityWithQJM.html>

[3] <http://hadoop.apache.org/docs/r2.7.2/hadoop-project-dist/hadoop-common/Metrics.html>

[4] <http://hbase.apache.org/book.html#hbase_metrics>

[5] <http://itindex.net/detail/50501-ganglia-hbase-metrics>

[6] <http://wiki.apache.org/hadoop/FAQ>