安装

采用单机模式

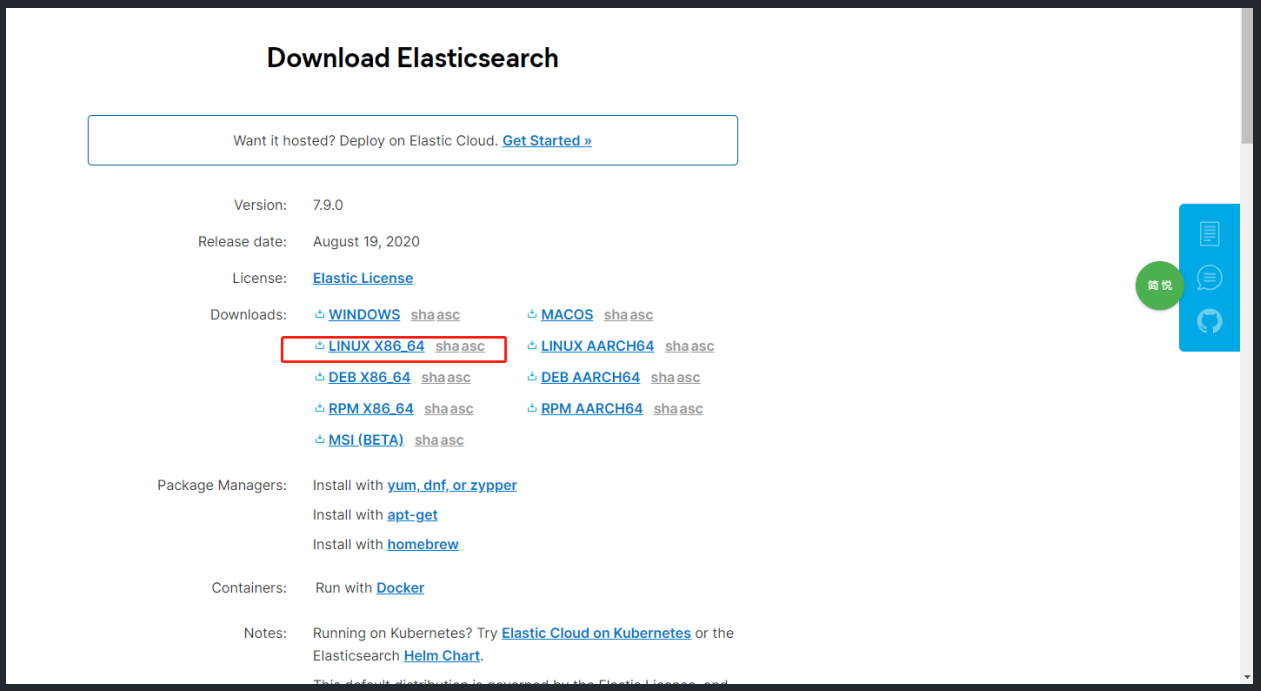
下载

https://www.elastic.co/downloads/elasticsearch

参考

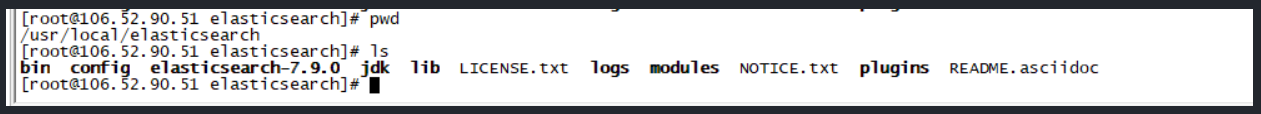
https://www.elastic.co/guide/en/elasticsearch/reference/current/es-tmpdir.html

当前版本 elasticsearch-7.9.0



二进制 格式

解压



创建数据文件夹

mkdir -p /usr/local/elasticsearch/data

创建日志文件夹

mkdir -p /usr/local/elasticsearch/logs

修改 conf 下的配置文件

elasticsearch.yml

```
#配置es的集群名称，默认是elasticsearch，es会自动发现在同一网段下的es，如果在同一网
cluster.name: sgqy-monitor
#节点名称
node.name: node-sgqy-1
#设置索引数据的存储路径
path.data: /usr/local/elasticsearch/data
#设置日志的存储路径
path.logs: /usr/local/elasticsearch/logs
#设置当前的ip地址,通过指定相同网段的其他节点会加入该集群中
network.host: 0.0.0.0
#设置对外服务的http端口
http.port: 8308
#设置集群中master节点的初始列表，可以通过这些节点来自动发现新加入集群的节点



# discovery.zen.ping.unicast.hosts
cluster.initial_master_nodes: ["node-sgqy-1"]


# Memory 下添加 如下配置 https://www.elastic.co/guide/en/elasticsearch/referen
bootstrap.system_call_filter : false
```

jvm.options

```
-Xms8g
-Xmx8g
```

ERROR: [1] bootstrap checks failed
[1]: initial heap size [6442450944] not equal to maximum heap size [8589934592]; this can cause resize pauses and prevents mlockall from locking the entire heap

解决办法：
cd $ES_HOME (/usr/local/elasticsearch/)
vi config/jvm.options
#初始化内存和最大内存设置为一样大
#初始化内存
-Xms16g
#最大内存
-Xmx16g

Elasticsearch参考[7.9] » 设置Elasticsearch » 重要的Elasticsearch配置 » **设置堆大小**

«重要的发现和集群形成设置　　JVM堆转储路径»

设置堆大小

默认情况下，Elasticsearch告诉JVM使用最小和最大大小为1 GB的堆。在进入生产环境时，配置堆大小以确保Elasticsearch有足够的可用堆非常重要。

Elasticsearch将通过（最小堆大小）和（最大堆大小）设置分配jvm.options中指定的整个堆 。您应该将这两个设置设置为彼此相等。 `Xms` `Xmx`

这些设置的值取决于服务器上可用的RAM数量：

- 设置 `Xmx` 和 `Xms` 你的物理内存不超过50%。Elasticsearch出于JVM堆以外的目的而需要内存，因此为此留出空间很重要。例如，Elasticsearch使用堆外缓冲区来进行有效的网络通信，依靠操作系统的文件系统缓存来有效地访问文件，并且JVM本身也需要一些内存。观察Elasticsearch过程使用的内存多于该 `Xmx` 设置配置的限制，这是正常的。
- 组 `Xmx` 和 `Xms` 不超过所述阈值，对压缩对象的指针的JVM用途（压缩糟糕）；确切的阈值有所不同，但接近32 GB。您可以通过在日志中查找如下一行来验证您是否处于阈值以下：

  堆大小[1.9gb]，压缩的普通对象指针[true]

- 理想地设置 `Xmx` 并 `Xms` 以不超过该阈值对于基于零的压缩糟糕; 确切的阈值有所不同，但是在大多数系统上26 GB是安全的，但是在某些系统上可以达到30 GB。您可以通过使用JVM选项启动Elasticsearch `-XX:+UnlockDiagnosticVMOptions -XX:+PrintCompressedOopsMode` 并查找类似于以下内容的行来验证您是否处于此阈值 以下：

  堆地址：0x000000011be00000，大小：27648 MB，从零开始的压缩操作

  显示启用了从零开始的压缩oop。如果未启用从零开始的压缩oop，则将看到类似以下内容的行：

  堆地址：0x0000000118400000，大小：28672 MB，压缩基数为0x00000001183ff000

Elasticsearch可用的堆越多，它可用于其内部缓存的内存就越多，但可供操作系统用于文件系统缓存的内存就越少。同样，较大的堆可能导致较长的垃圾回收暂停。

Elasticsearch视频

在McQueen Solutions优化搜索弹性。

立即观看

+ Elasticsearch参考： 7.9（目前）
+ 什么是Elasticsearch?
  7.9的新功能
+ Elasticsearch入门
- 设置Elasticsearch
  + 安装Elasticsearch
  + 配置Elasticsearch
  - 重要的Elasticsearch配置
    `path.data` 和 `path.logs`
    `cluster.name`
    `node.name`
    `network.host`
    发现和集群形成设置
    设置堆大小
    JVM堆转储路径
    GC记录
    临时目录
    JVM致命错误日志

设置运行用户

```
groupadd elasticsearch
useradd -g elasticsearch elasticsearch
passwd elasticsearch
```

添加文件夹访问权限

```
chmod 777 -R /usr/local/elasticsearch
```

设置

```
# max virtual memory areas vm.max_map_count [65530] is too low, increase to a
echo "vm.max_map_count=262144" >> /etc/sysctl.conf
sysctl -p  #使修改立即生效
#max_map_count文件包含限制一个进程可以拥有的VMA(虚拟内存区域)的数量。虚拟内存区域是
#这些区域将被创建。调优这个值将限制进程可拥有VMA的数量。限制一个进程拥有VMA的总数可
#如果你的操作系统在NORMAL区域仅占用少量的内存，那么调低这个值可以帮助释放内存给内核
```

设置自启

http://106.52.90.51:8308/

```
su - elasticsearch -c "/usr/local/elasticsearch/bin/elasticsearch -d -p pid"
```

自启再说吧

设置密码访问

https://www.cnblogs.com/chenjiangbin/p/12061074.html

```
{
  "name" : "node-sgqy-1",
  "cluster_name" : "sgqy-monitor",
  "cluster_uuid" : "LpO9p3tNSHWklAUCGRej-g",
  "version" : {
    "number" : "7.9.0",
    "build_flavor" : "default",
    "build_type" : "tar",
    "build_hash" : "a479a2a7fce0389512d6a9361301708b92dff667",
```

```
    "build_date" : "2020-08-11T21:36:48.204330Z",
    "build_snapshot" : false,
    "lucene_version" : "8.6.0",
    "minimum_wire_compatibility_version" : "6.8.0",
    "minimum_index_compatibility_version" : "6.0.0-beta1"
  },
  "tagline" : "You Know, for Search"
}
```

附录

elasticsearch.yml

```
# ======================== Elasticsearch Configuration =========================
#
# NOTE: Elasticsearch comes with reasonable defaults for most settings.
#       Before you set out to tweak and tune the configuration, make sure you
#       understand what are you trying to accomplish and the consequences.
#
# The primary way of configuring a node is via this file. This template lists
# the most important settings you may want to configure for a production clus
#
# Please consult the documentation for further information on configuration o
# https://www.elastic.co/guide/en/elasticsearch/reference/index.html
#
# ---------------------------------- Cluster -----------------------------------
#
# Use a descriptive name for your cluster:
#
cluster.name: sgqy-monitor
#
# ------------------------------------ Node ------------------------------------
#
# Use a descriptive name for the node:
#
node.name: node-sgqy-1
```

```
#
# Add custom attributes to the node:
#
#node.attr.rack: r1
#
# ---------------------------------- Paths ------------------------------------
#
# Path to directory where to store the data (separate multiple locations by c
# 设置索引数据的存储路径
path.data: /usr/local/elasticsearch/data
#
# Path to log files:
#
path.logs: /usr/local/elasticsearch/logs
#
# ---------------------------------- Memory -----------------------------------
#
# Lock the memory on startup:
#
#bootstrap.memory_lock: true
#
# Make sure that the heap size is set to about half the memory available
# on the system and that the owner of the process is allowed to use this
# limit.
#
# Elasticsearch performs poorly when the system is swapping the memory.
#
# ---------------------------------- Network -----------------------------------
#
# Set the bind address to a specific IP (IPv4 or IPv6):
#
network.host: 0.0.0.0
#
# Set a custom port for HTTP:
#
http.port: 8308
#
# For more information, consult the network module documentation.
#
# --------------------------------- Discovery ----------------------------------
#
# Pass an initial list of hosts to perform discovery when this node is starte
# The default list of hosts is ["127.0.0.1", "[::1]"]
```

```
#
#discovery.seed_hosts: ["host1", "host2"]
#
# Bootstrap the cluster using an initial set of master-eligible nodes:
#
#cluster.initial_master_nodes: ["node-1", "node-2"]
#
# For more information, consult the discovery and cluster formation module do
#
# ---------------------------------- Gateway -----------------------------------
#
# Block initial recovery after a full cluster restart until N nodes are start
#
#gateway.recover_after_nodes: 3
#
# For more information, consult the gateway module documentation.
#
# ---------------------------------- Various -----------------------------------
#
# Require explicit names when deleting indices:
#
#action.destructive_requires_name: true

```

jvm.options

```
## JVM configuration

################################################################
## IMPORTANT: JVM heap size
################################################################
##
## You should always set the min and max JVM heap
## size to the same value. For example, to set
## the heap to 4 GB, set:
##
## -Xms4g
## -Xmx4g
##
```

```
## See https://www.elastic.co/guide/en/elasticsearch/reference/current/heap-s
## for more information
##
################################################################

# Xms represents the initial size of total heap space
# Xmx represents the maximum size of total heap space

-Xms6g
-Xmx8g

################################################################
## Expert settings
################################################################
##
## All settings below this section are considered
## expert settings. Don't tamper with them unless
## you understand what you are doing
##
################################################################

## GC configuration
8-13:-XX:+UseConcMarkSweepGC
8-13:-XX:CMSInitiatingOccupancyFraction=75
8-13:-XX:+UseCMSInitiatingOccupancyOnly

## G1GC Configuration
# NOTE: G1 GC is only supported on JDK version 10 or later
# to use G1GC, uncomment the next two lines and update the version on the
# following three lines to your version of the JDK
# 10-13:-XX:-UseConcMarkSweepGC
# 10-13:-XX:-UseCMSInitiatingOccupancyOnly
14-:-XX:+UseG1GC
14-:-XX:G1ReservePercent=25
14-:-XX:InitiatingHeapOccupancyPercent=30

## JVM temporary directory
-Djava.io.tmpdir=${ES_TMPDIR}

## heap dumps

# generate a heap dump when an allocation from the Java heap fails
# heap dumps are created in the working directory of the JVM
```

```
-XX:+HeapDumpOnOutOfMemoryError

# specify an alternative path for heap dumps; ensure the directory exists and
# has sufficient space
-XX:HeapDumpPath=data

# specify an alternative path for JVM fatal error logs
-XX:ErrorFile=logs/hs_err_pid%p.log

## JDK 8 GC logging
8:-XX:+PrintGCDetails
8:-XX:+PrintGCDateStamps
8:-XX:+PrintTenuringDistribution
8:-XX:+PrintGCApplicationStoppedTime
8:-Xloggc:logs/gc.log
8:-XX:+UseGCLogFileRotation
8:-XX:NumberOfGCLogFiles=32
8:-XX:GCLogFileSize=64m

# JDK 9+ GC logging
9-:-Xlog:gc*,gc+age=trace,safepoint:file=logs/gc.log:utctime,pid,tags:filecou

```