



黑客派

ActiveMQ 集群部署与应用

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原文链接: <https://hacpai.com/article/1511682724239>

来源网站: 黑客派

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<p>从 ActiveMQ 5.9 开始，ActiveMQ 的集群实现方式取消了传统的 Master-Slave 方式，增加了于 ZooKeeper + LevelDB 的 Master-Slave 实现方式，本次介绍的集群仅提供主备方式的高可用集功能，避免单点故障，没有负载均衡功能。</p>
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></script>
<!-- 黑客派PC帖子内嵌-展示 -->
<ins class="adsbygoogle" style="display:block" data-ad-client="ca-pub-5357405790190342" data-ad-slot="8316640078" data-ad-format="auto" data-full-width-responsive="true"></ins>
</script>
 (adsbygoogle = window.adsbygoogle || []).push({});
</script>
<p>官方文档：http://activemq.apache.org/replicated-leveldb-store.html</p>
<h2 id="原理">原理</h2>
<p></p>

<p>使用 ZooKeeper(集群)注册所有的 ActiveMQ Broker。只有其中的一个 Broker 可以提供服务被视为 Master，其他的 Broker 处于待机状态，被视为 Slave。</p>
<p>如果 Master 因故障而不能提供服务，ZooKeeper 会从 Slave 中选举出一个 Broker 充当 Master。Slave 连接 Master 并同步他们的存储状态，Slave 不接受客户端连接。所有的存储操作都将被复制到连接至 Master 的 Slaves。如果 Master 宕了，得到了最新更新的 Slave 会成为 Master。故障节在恢复后会重新加入到集群中并连接 Master 进入 Slave 模式。</p>
<p>所有需要同步的 disk 的消息操作都将等待存储状态被复制到其他法定节点的操作完成才能完成所以，如果你配置了 replicas=3，那么法定大小是(3/2)+1=2。Master 将会存储并更新然后等待 (2-1=1 个 Slave 存储和更新完成，才汇报 success。至于为什么是 2-1，熟悉 Zookeeper 的应该知道，一个 node 要作为观察者存在。</p>
<p>当一个新的 Master 被选中，你需要至少保障一个法定 node 在线以能够找到拥有最新状态的 node。这个 node 可以成为新的 Master。</p>
<p>因此，推荐运行至少 3 个 replica nodes，以防止一个 node 失败了，服务中断。</p>
<h2 id="规划">规划</h2>

环境：CentOS 6.5 x64、JDK7
版本：ActiveMQ 5.9
ZooKeeper 集群环境 <code>172.16.129.18:2181</code> <code>172.16.129.21:2181</code> <code>172.16.129.22:2181</code>

主机	集群端口	消息端口	管控台端口	节点安装目录
172.16.129.18	62621	61616		

```

<td>8161</td>
<td>/user/local/activemq</td>
</tr>
<tr>
<td>172.16.129.21</td>
<td>62621</td>
<td>61616</td>
<td>8161</td>
<td>/user/local/activemq</td>
</tr>
<tr>
<td>172.16.129.22</td>
<td>62621</td>
<td>61616</td>
<td>8161</td>
<td>/user/local/activemq</td>
</tr>
</tbody>
</table>
<h2 id="集群配置">集群配置</h2>
<p>在 3 个 ActiveMQ 节点配置 <code>conf/activemq.xml</code> 持久化适配器，修改其中 <code>bind</code>、<code>zkAddress</code>、<code>hostname</code> 和 <code>zkPat</code>。</p>
<p>修改 <code>brokerName</code> 为 <code>platform_app</code>（可改可不改）</p>
<blockquote>
<p>注意：每个 activemq 的 BrokerName 必须相同，否则不能加入集群。</p>
</blockquote>
<pre><code class="highlight-chroma">&lt;broker xmlns="http://activemq.apache.org/sche
a/core" brokerName="localhost" dataDirectory="${activemq.data}"&gt;
  &lt;destinationPolicy&gt;
    ....
    &lt;/destinationPolicy&gt;
    ....
    &lt;persistenceAdapter&gt;
      ...
      &lt;/persistenceAdapter&gt;
    &lt;/broker&gt;
  </code></pre>
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></scr
pt>
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data-ad-slot="8316640078" data-ad-format="auto" data-full-width-responsive="true"></in
>
<script>
  (adsbygoogle = window.adsbygoogle || []).push({});
</script>
<p>最为重要的是修改 <code>persistenceAdapter</code> 部分，将其默认的注释，加入如下：<
p>
<pre><code class="highlight-chroma">&lt;!-- node1 --&gt;
&lt;replicatedLevelDB
  directory="${activemq.data}/leveldb"
  replicas="3"
  bind="tcp://0.0.0.0:62621"

```

```
zkAddress="172.16.129.18:2181,172.16.129.21:2181,172.16.129.22:2181"
hostname="redis18" zkPath="/activemq/leveldb-stores"
/>
```

not found render function for node [type=NodeHTMLEntity, Tokens=<]not found render function for node [type=NodeHTMLEntity, Tokens=<]!-- node2 --
not found render function for node [type=NodeHTMLEntity, Tokens=>]not found render function for node [type=NodeHTMLEntity, Tokens=>]

not found render function for node [type=NodeHTMLEntity, Tokens=<]not found render function for node [type=NodeHTMLEntity, Tokens=<]replicatedLevelDB

```
directory="${activemq.data}/leveldb"
```

```
replicas="3"
```

```
bind="tcp://0.0.0.0:62621"
```

```
zkAddress="172.16.129.18:2181,172.16.129.21:2181,172.16.129.22:2181"
```

```
hostname="redis21" zkPath="/activemq/leveldb-stores"
```

/not found render function for node [type=NodeHTMLEntity, Tokens=>]not found render function for node [type=NodeHTMLEntity, Tokens=>]

not found render function for node [type=NodeHTMLEntity, Tokens=<]not found render function for node [type=NodeHTMLEntity, Tokens=<]!-- node3 --
not found render function for node [type=NodeHTMLEntity, Tokens=>]not found render function for node [type=NodeHTMLEntity, Tokens=>]

not found render function for node [type=NodeHTMLEntity, Tokens=<]not found render function for node [type=NodeHTMLEntity, Tokens=<]replicatedLevelDB

```
directory="${activemq.data}/leveldb"
```

```
replicas="3"
```

```
bind="tcp://0.0.0.0:62621"
```

```
zkAddress="172.16.129.18:2181,172.16.129.21:2181,172.16.129.22:2181"
```

```
hostname="redis22" zkPath="/activemq/leveldb-stores"
```

/not found render function for node [type=NodeHTMLEntity, Tokens=>]not found render function for node [type=NodeHTMLEntity, Tokens=>]

</code> </pre>

其它配置

修改 <code>jmx.password</code>


```
<pre> <code class="highlight-chroma"># admin activemq
jiangyong jiangyongpwd
```

```
</code> </pre>
```

<ol start="2">

修改 <code>credentials.properties</code>


```
<pre> <code class="highlight-chroma">#activemq.username=system
#activemq.password=manager
#guest.password=password
```

```
activemq.username=jiangyong
```

```
activemq.password=jiangyongpwd
```

```
guest.password=password
```

```
</code></pre>
```

```
<ol start="3">
```

```
<li>修改 <code>jetty-realm.properties</code> </li>
```

```
</ol>
```

```
<pre><code class="highlight-chroma">#admin: admin, admin
```

```
#user: user, user
```

```
admin: jiangyongpwd, admin
```

```
</code></pre>
```

```
<h2 id="创建启动脚本">创建启动脚本</h2>
```

```
<pre><code class="highlight-chroma">$ ln -s /usr/local/activemq/bin/activemq /etc/init.d/a  
tivismq
```

```
</code></pre>
```

```
<h2 id="启动服务并监听日志">启动服务并监听日志</h2>
```

```
<blockquote>
```

```
<p>需先启动 zookeeper 集群服务</p>
```

```
</blockquote>
```

```
<pre><code class="highlight-chroma">$ service activemq start
```

```
$ tail -f /usr/local/activemq/data/activemq.log
```

```
</code></pre>
```

```
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></scr  
pt>
```

```
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```
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data-ad-slot="8316640078" data-ad-format="auto" data-full-width-responsive="true"></in  
>
```

```
<script>
```

```
(adsbygoogle = window.adsbygoogle || []).push({});
```

```
</script>
```

```
<p>输出如下 INFO 信息则表示配置成功</p>
```

```
<pre><code class="highlight-chroma">[root@redis18 data]# tail -f activemq.log
```

```
2017-11-10 18:34:44,631 | WARN | SASL configuration failed: javax.security.auth.login.LoginE  
ception: No JAAS configuration section named 'Client' was found in specified JAAS configurat  
on file: '/usr/local/activemq/conf/login.config'. Will continue connection to Zookeeper server  
without SASL authentication, if Zookeeper server allows it. | org.apache.zookeeper.ClientCnxn  
main-SendThread(172.16.129.21:2181)
```

```
2017-11-10 18:34:44,634 | INFO | Opening socket connection to server 172.16.129.21/172.16.  
29.21:2181 | org.apache.zookeeper.ClientCnxn | main-SendThread(172.16.129.21:2181)
```

```
2017-11-10 18:34:44,634 | WARN | unprocessed event state: AuthFailed | org.apache.activemq  
leveldb.replicated.groups.ZKClient | main-EventThread
```

```
2017-11-10 18:34:44,643 | INFO | Socket connection established to 172.16.129.21/172.16.129.  
21:2181, initiating session | org.apache.zookeeper.ClientCnxn | main-SendThread(172.16.129.  
1:2181)
```

```
2017-11-10 18:34:44,660 | INFO | Session establishment complete on server 172.16.129.21/1  
2.16.129.21:2181, sessionId = 0x1504475b64c90001, negotiated timeout = 4000 | org.apache.  
ookeeper.ClientCnxn | main-SendThread(172.16.129.21:2181)
```

```
2017-11-10 18:34:44,963 | INFO | Using the pure java LevelDB implementation. | org.apache.a  
tivismq.leveldb.LevelDBClient | ActiveMQ BrokerService[localhost] Task-1
```

```
2017-11-10 18:34:44,975 | INFO | Attaching to master: tcp://redis21:62621 | org.apache.activ  
mq.leveldb.replicated.SlaveLevelDBStore | ActiveMQ BrokerService[localhost] Task-1
```

```
2017-11-10 18:34:44,984 | INFO | Slave started | org.apache.activemq.leveldb.replicated.MasterElector | ActiveMQ BrokerService[localhost] Task-1
2017-11-10 18:34:45,210 | INFO | Attaching... Downloaded 0.00/0.00 kb and 1/1 files | org.apache.activemq.leveldb.replicated.SlaveLevelDBStore | hawtdispatch-DEFAULT-3
2017-11-10 18:34:45,212 | INFO | Attached | org.apache.activemq.leveldb.replicated.SlaveLevelDBStore | hawtdispatch-DEFAULT-3
</code> </pre>
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></script>
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