
toc: true date: 2018-09-18 title: 《从0到1学习Flink》—— Mac 上搭建 Flink 1.6.0 环境并构建运行简单程序入门 tags:

- Flink
 - 大数据
 - 流式计算
-



准备工作

1、安装查看 Java 的版本号，推荐使用 Java 8。

安装 Flink

2、在 Mac OS X 上安装 Flink 是非常方便的。推荐通过 homebrew 来安装。

```
brew install apache-flink
```

3、检查安装：

```
flink --version
```

结果：

```
Version: 1.6.0, Commit ID: ff472b4
```

4、启动 flink

```
zhisheng@zhisheng /usr/local/Cellar/apache-flink/1.6.0/libexec/bin ./start-cluster.sh
Starting cluster.
Starting standalone session daemon on host zhisheng.
Starting taskexecutor daemon on host zhisheng.
```

接着就可以进入 web 页面(<http://localhost:8081/>) 查看

The screenshot displays the Apache Flink Dashboard interface. On the left is a dark sidebar with navigation links: Overview, Running Jobs, Completed Jobs, Task Managers, Job Manager, and Submit new Job. The main content area is titled 'Overview' and shows the following information:

- Version: 1.6.0, Commit: ff472b4
- Task Managers: 1
- Task Slots: 1
- Available Task Slots: 0
- Total Jobs: 1 Running, 0 Finished, 0 Canceled, 0 Failed

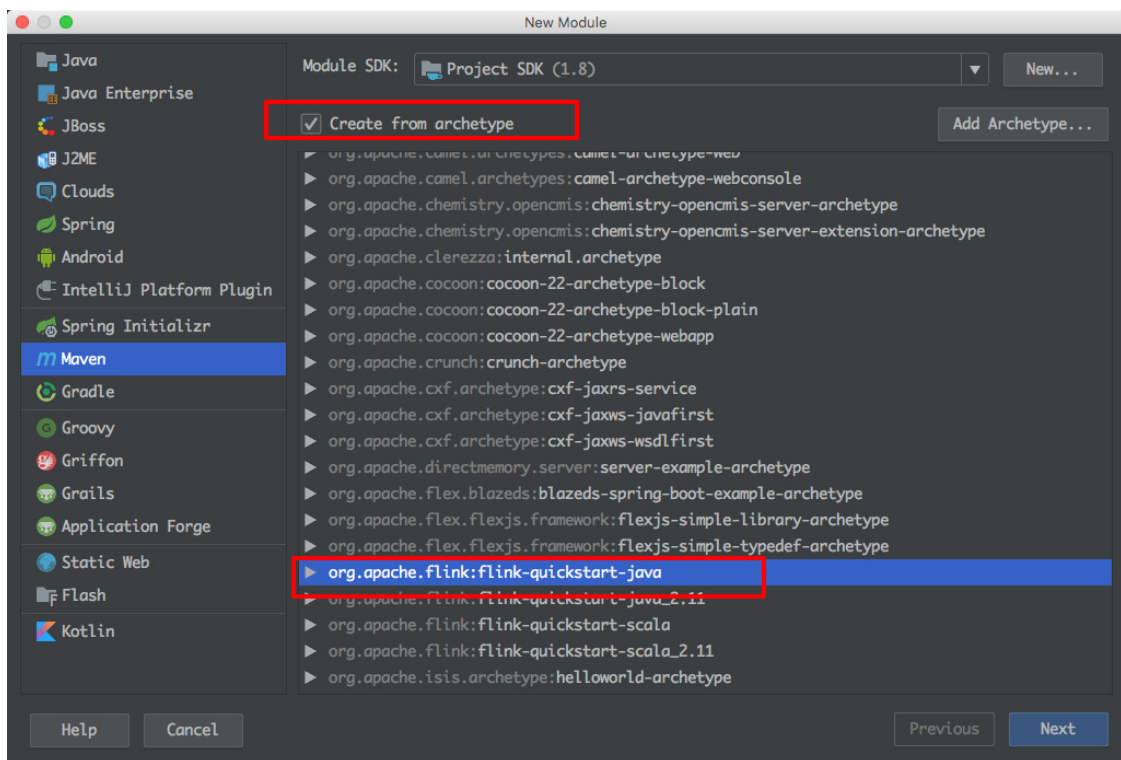
Below this, there are two tables:

Start Time	End Time	Duration	Job Name	Job ID	Tasks	Status
2018-09-18, 17:12:29	2018-09-18, 17:17:22	4m 53s	Java WordCount from SocketTextStream Example	e3dda202e92304ec7da73eb02f99392e	2 0 0 0 2 0 0 0 0 0	RUNNING

Start Time	End Time	Duration	Job Name	Job ID	Tasks	Status
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demo

1、新建一个 maven 项目



创建一个 SocketTextStreamWordCount 文件，加入以下代码：

```
package com.zhisheng.flink;

import org.apache.flink.api.common.functions.FlatMapFunction;
import org.apache.flink.api.java.tuple.Tuple2;
import org.apache.flink.streaming.api.datastream.DataStreamSource;
import org.apache.flink.streaming.api.datastream.SingleOutputStreamOperator;
import org.apache.flink.streaming.api.environment.StreamExecutionEnvironment;
import org.apache.flink.util.Collector;

/**
 * Created by zhisheng_tian on 2018/9/18
 */
public class SocketTextStreamWordCount {
    public static void main(String[] args) throws Exception {
        // 参数检查
        if (args.length != 2) {
            System.err.println("USAGE: \nSocketTextStreamWordCount <hostname> <port>");
            return;
        }
    }
}
```

```

    }

    String hostname = args[0];
    Integer port = Integer.parseInt(args[1]);

    // set up the streaming execution environment
    final StreamExecutionEnvironment env =
StreamExecutionEnvironment.getExecutionEnvironment();

    // 获取数据
    DataStreamSource<String> stream =
env.socketTextStream(hostname, port);

    // 计数
    SingleOutputStreamOperator<Tuple2<String, Integer>> sum =
stream.flatMap(new LineSplitter())
        .keyBy(0)
        .sum(1);

    sum.print();

    env.execute("Java WordCount from SocketTextStream
Example");
}

public static final class LineSplitter implements
FlatMapFunction<String, Tuple2<String, Integer>> {
    @Override
    public void flatMap(String s, Collector<Tuple2<String,
Integer>> collector) {
        String[] tokens = s.toLowerCase().split("\\W+");

        for (String token: tokens) {
            if (token.length() > 0) {
                collector.collect(new Tuple2<String, Integer>
(token, 1));
            }
        }
    }
}
}
}
}

```

接着进入工程目录，使用以下命令打包。

```
mvn clean package -Dmaven.test.skip=true
```

```
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ word-count ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 3 source files to /Users/zhisheng/IdeaProjects/Flink/word-count/target/classes
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ word-count ---
[INFO] Not copying test resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ word-count ---
[INFO] Not compiling test sources
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ word-count ---
[INFO] Tests are skipped.
[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ word-count ---
[INFO] Building jar: /Users/zhisheng/IdeaProjects/Flink/word-count/target/word-count-1.0-SNAPSHOT.jar
[INFO]
[INFO] --- maven-shade-plugin:3.0.0:shade (default) @ word-count ---
[INFO] Excluding org.slf4j:slf4j-api:jar:1.7.7 from the shaded jar.
[INFO] Excluding org.slf4j:slf4j-log4j12:jar:1.7.7 from the shaded jar.
[INFO] Excluding log4j:log4j:jar:1.2.17 from the shaded jar.
[INFO] Replacing original artifact with shaded artifact.
[INFO] Replacing /Users/zhisheng/IdeaProjects/Flink/word-count/target/word-count-1.0-SNAPSHOT.jar with /Users/zhisheng/IdeaProjects/Flink/word-count/target/word-count-1.0-SNAPSHOT-shaded.jar
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 3.032 s
[INFO] Finished at: 2018-09-18T17:11:24+08:00
[INFO] Final Memory: 27M/308M
[INFO] -----
```

然后我们开启监听 9000 端口:

```
nc -l 9000
```

```
[INFO] -----
zhisheng@zhisheng: ~/IdeaProjects/flink/word-count > nc -l 9000
hello hello hello
heheheheheh
your world
```

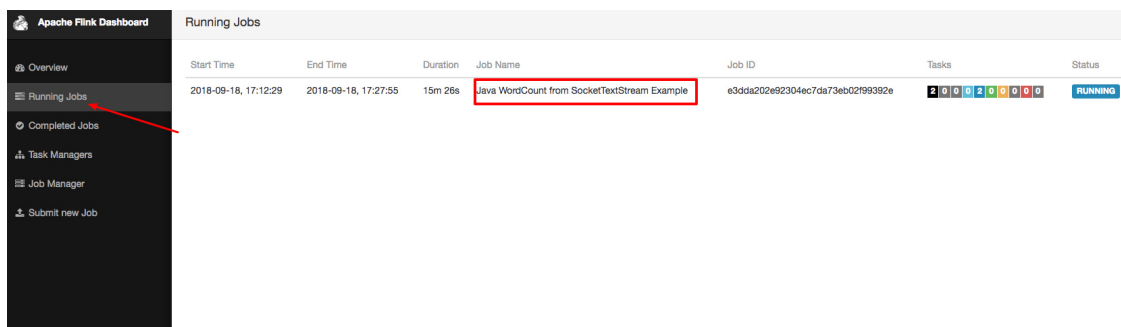
最后进入 flink 安装目录 bin 下执行以下命令跑程序：

```
flink run -c com.zhisheng.flink.SocketTextStreamWordCount
/Users/zhisheng/IdeaProjects/flink/word-count/target/original-word-
count-1.0-SNAPSHOT.jar 127.0.0.1 9000
```

注意换成你自己项目的路径。

```
Starting taskexecutor daemon on host zhisheng.
zhisheng@zhisheng: ~$ ./flink-1.6.0-bin/libexec/bin cd ..
zhisheng@zhisheng: ~$ ./flink-1.6.0-bin/libexec/bin cd ..
zhisheng@zhisheng: ~$ ./flink-1.6.0-bin/libexec/bin cd ..
INSTALL_RECEIPT.json LICENSE NOTICE README.txt bin libexec
zhisheng@zhisheng: ~$ ./flink-1.6.0-bin/libexec/bin cd ..
zhisheng@zhisheng: ~$ ./flink-1.6.0-bin/libexec/bin cd ..
zhisheng@zhisheng: ~$ ./flink-1.6.0-bin/libexec/bin cd ..
flink
zhisheng@zhisheng: ~$ ./flink-1.6.0-bin/libexec/bin flink run -c coo.zhisheng.Flink.SocketTextStreamWordCount /Users/zhisheng/IdeaProjects/flink/word-count/target/original-word-count-1.0-SNAPSHOT.jar 127.0.0.1 9000
Starting execution of program
```

执行完上述命令后，我们可以在 webUI 中看到正在运行的程序：



我们可以在 nc 监听端口中输入 text，比如：

```
[INFO] -----
zhisheng@zhisheng ~/IdeaProjects/flink/word-count nc -l 9000
hello hello hello
heheheheheh
your world
^[[B^[[Btianzhisheng zhisheng
zhisheng
zhisheng
zhisheng
zhisheng01
zhisheng02
zhisheng03
zhishengo1
zhishengo2
```

然后我们通过 tail 命令看一下输出的 log 文件，来观察统计结果。进入目录 apache-flink/1.6.0/libexec/log，执行以下命令：

```
tail -f flink-zhisheng-taskexecutor-0-zhisheng.out
```

注意：切换成你自己的路径和查看自己的目录。

```
zhisheng@zhisheng ~$ cd /usr/local/Cellar/apache-flink/1.6.0 &> cd libexec
zhisheng@zhisheng ~$ ls
bin conf examples lib libexec log opt
zhisheng@zhisheng ~$ cd log
zhisheng@zhisheng ~$ ls
flink-zhisheng-client-zhisheng.log flink-zhisheng-standalone-session-0-zhisheng.log flink-zhisheng-taskexecutor-0-zhisheng.log flink-zhisheng-taskexecutor-0-zhisheng.out
flink-zhisheng-standalone-session-0-zhisheng.log flink-zhisheng-standalone-session-0-zhisheng.out flink-zhisheng-taskexecutor-0-zhisheng.log flink-zhisheng-taskexecutor-0-zhisheng.out
zhisheng@zhisheng ~$ tail -f flink-zhisheng-taskexecutor-0-zhisheng.out
(hello,1)
(hello,2)
(hello,3)
(your,1)
(world,1)
(hello,1)
(tianzhisheng,1)
(zhisheng,1)
(zhisheng,2)
(zhisheng,3)
(zhisheng,4)
(zhisheng01,1)
(zhisheng02,1)
(zhisheng03,1)
(zhishengo1,1)
(zhishengo2,1)
```

总结

本文描述了如何在 Mac 电脑上安装 Flink，及运行它。接着通过一个简单的 Flink 程序来介绍如何构建及运行 Flink 程序。

关注我

转载请注明地址：<http://www.54tianzhisheng.cn/2018/09/18/flink-install>

另外我自己整理了些 Flink 的学习资料，目前已经全部放到微信公众号了。你可以加我的微信：zhisheng_tian，然后回复关键字：Flink 即可无条件获取到。



Github 代码仓库

<https://github.com/zhisheng17/flink-learning/>

以后这个项目的所有代码都将放在这个仓库里，包含了自己学习 flink 的一些 demo 和博客

相关文章

- 1、[《从0到1学习Flink》—— Apache Flink 介绍](#)

- 2、[《从0到1学习Flink》—— Mac 上搭建 Flink 1.6.0 环境并构建运行简单程序入门](#)
- 3、[《从0到1学习Flink》—— Flink 配置文件详解](#)
- 4、[《从0到1学习Flink》—— Data Source 介绍](#)
- 5、[《从0到1学习Flink》—— 如何自定义 Data Source ?](#)
- 6、[《从0到1学习Flink》—— Data Sink 介绍](#)
- 7、[《从0到1学习Flink》—— 如何自定义 Data Sink ?](#)
- 8、[《从0到1学习Flink》—— Flink Data transformation\(转换\)](#)
- 9、[《从0到1学习Flink》—— 介绍Flink中的Stream Windows](#)
- 10、[《从0到1学习Flink》—— Flink 中的几种 Time 详解](#)
- 11、[《从0到1学习Flink》—— Flink 写入数据到 ElasticSearch](#)