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| Keeping a Healthy Menagerie |

Abstract

Kafka has a hard dependence on Zookeeper. When Kafka is not working, it could be because of Zookeeper not working.

Because Zookeeper runs as daemon, its presence eludes/escapes detection by many tools, like macOS’ Activity Monitor.

This document offers two CLI alternatives to the Activity Monitor for proving a Zookeeper instance is alive.

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The Safari

Kafka has a hard dependence on Zookeeper.

Because the Activity Monitor does not directly/specifically detect Zookeeper’s existence, Zookeeper’s PID was found via a built-in CLI filter: lsof.

Then using the value of the PID as reported by lsof as a search term, a peek into the Activity Monitor GUI, shows that a live presence of Zookeeper might have been discovered.

It is tucked away as part-and-parcel to the Process Name: com.docker.backend

A screenshot of a cell phone

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Inconclusive.

Elusive.

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Two Solutions

Solution One

While we can never be sure of the IPv6 address for Zookeeper in every circumstance – Zookeeper runs as a daemon – it *IS* known that Zookeeper defaults to running on port **2181** (IPv6).

With that smattering of info, we leverage a built-in CLI filter: lsof

However, leveraging the canonical lsof utility lists *all* open files and the processes that opened them.

This indirectly proves the viability of an application by reporting its PID.

Because the lsof utility reports every process, to filter its output, we leverage the canonical lsof utility to call by port (IPv6 compatible) to narrow the list.

So, omitting the (IPv6) IP address component, we supply just the port component (of a complete IPv6 address) to essentially “ping” Zookeeper:

lsof -i :2181

We’ve omitted the hostname identifier – the value of which in a Docker Container would be localhost, anyway – corner cases and for portability.

I’ve written a simple script performs the above query (its advantage is hiding the syntactic complexity making the query reliable/repeatable (one less thing to mistype, lose to misremembery (that’s jargon) :

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ref <https://en.wikipedia.org/wiki/Lsof#Lsof_output>

ref <https://www.cyberciti.biz/faq/linux-unix-open-ports/>

Solution Two

The more direct and informative (better?) way is to leverage the canonical netcat (nc) utility/filter.

The CLI command below pipes the command status into netcat (which targets the host:port).

echo status | nc localhost 2181

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This approach does not reveal Zookeeper‘s PID/PhD, but it surely proves that Zookeeper is online.

While nc is an abbreviation of netcat, in macOS the nc command is the only way to call netcat.

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