

Docker instructions on MacOS

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Problem

Resolution

Adding new debians to Colima

Setting up a Docker for the first time

Install brew (package manager on macOS)

```
/bin/bash -c "$(curl -fsSL
https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

Follow instructions to add homebrew to your path

Install colima on our macOS

```
brew install qemu colima docker
```

Update the Colima Template to increase VM resources

```
colima template
```

Edit the following lines (8 cores and 12 Gb RAM):

```
cpu = 8
memory = 12
```

In case you are doing any Linux kernel development, you will need more space to compile the kernel (At least 200Gb total VM space):

```
disk = 200
```

Start Colima

```
# This will setup colima to start after a laptop restart
brew services start Colima
```

```
# This starts the colima docker engine
colima start
```

Verify the docker is working properly

```
docker run hello-world
```

Install the required kernel modules for FRR topotest

```
# This enters the colima VM
colima ssh

sudo apt-get update

sudo apt-get install linux-modules-extra-$(uname -r)

sudo modprobe vrf && sudo modprobe mpls_router && sudo modprobe team

exit
```

At this point, the colima VM engine is ready to start building and running FRR topotests.

Additional commands

How to show the currently running docker engine + resource allocation

```
colima list
```

How to stop the colima docker engine

```
colima stop
```

How to delete the colima docker engine to start from scratch

```
colima delete
```

Known Issues

"unsupported tracepoint" when running perf within the Colima VM

Problem

```
mmallin@colima:/Users/mmallin/src/wb-frr-1$ sudo perf record -g -a -e
skb:kfree_skb
event syntax error: 'skb:kfree_skb'
                \___ unsupported tracepoint
```

libtraceevent is necessary for tracepoint support
Run 'perf list' for a list of valid events

```
Usage: perf record [<options>] [<command>]
       or: perf record [<options>] -- <command> [<options>]
```

-e, --event <event> event selector. use 'perf list' to list available events

Resolution

This is a known upstream issue in Ubuntu:

<https://bugs.launchpad.net/ubuntu/+source/linux/+bug/2019247>

The fix is to re-compile perf with the missing libtraceevent:

```
sudo apt-get update
sudo apt-get install -y libeventtrace-dev build-essential flex bison libelf-
dev systemtap-sdt-dev libunwind-dev libssl-dev libslang2-dev libperl-dev
python3-dev python3-setuptools libcap-dev libnuma-dev libbabeltrace-dev
libpfm4-dev pkg-config binutils-dev
git clone -n https://github.com/torvalds/linux
cd linux
git checkout (kernel version - check `uname -r`)
cd tools/perf
make -j8
./perf ...
```

**Colima Fails to start: exiting, status={Running:false
Degraded:false Exiting:true Errors:[] SSHLocalPort:0}
(hint: see
"/Users/mmallin/.colima/_lima/colima/ha.stderr.log")**

Problem

When trying to start colima after a reboot, the following error message is seen:

```
> exiting, status={Running:false Degraded:false Exiting:true Errors:[]
SSHLocalPort:0} (hint: see
"/Users/mmallin/.colima/_lima/colima/ha.stderr.log")
FATA[0002] error starting vm: error at 'starting': exit status 1

{"level":"fatal","msg":"template: :1:21: executing \"\" at \u003cfd_connect
\"/Users/mmallin/.colima/_lima/_networks/user-v2/user-v2_qemu.sock\"\" \u003e:
error calling fd_connect: fd_connect: dial unix
/Users/mmallin/.colima/_lima/_networks/user-v2/user-v2_qemu.sock: connect:
connection refused","time":"2024-10-03T09:26:52-04:00"}
```

Full Logs:

```
MMALLIN-M-3K40:wb-frr-1 mmallin$ colima start
INFO[0000] starting colima
INFO[0000] runtime: docker
INFO[0000] starting ... context=vm
> Using the existing instance "colima"
> Starting the instance "colima" with VM driver "qemu"
> QEMU binary "/opt/homebrew/bin/qemu-system-aarch64" seems properly signed
with the "com.apple.security.hypervisor" entitlement
> [hostagent] hostagent socket created at
/Users/mmallin/.colima/_lima/colima/ha.sock
> [hostagent] Using system firmware ("/opt/homebrew/share/qemu/edk2-aarch64-
code.fd")
> exiting, status={Running:false Degraded:false Exiting:true Errors:[]
SSHLocalPort:0} (hint: see
"/Users/mmallin/.colima/_lima/colima/ha.stderr.log")
FATA[0002] error starting vm: error at 'starting': exit status 1

MMALLIN-M-3K40:wb-frr-1 mmallin$ cat
/Users/mmallin/.colima/_lima/colima/ha.stderr.log
{"level":"debug","msg":"Creating iso file
/Users/mmallin/.colima/_lima/colima/cidata.iso","time":"2024-10-03T09:26:51-
04:00"}
{"level":"debug","msg":"Using
/var/folders/nm/w4v8ycr14lxdms4t1302w98c0000gn/T/diskfs_iso1594478071 as
workspace","time":"2024-10-03T09:26:51-04:00"}
{"level":"debug","msg":"Failed to detect CPU features. Assuming that AES
acceleration is available on this Apple silicon.","time":"2024-10-
03T09:26:51-04:00"}
{"level":"debug","msg":"OpenSSH version 9.8.1 detected","time":"2024-10-
03T09:26:51-04:00"}
{"level":"debug","msg":"AES accelerator seems available, prioritizing aes128-
gcm@openssh.com and aes256-gcm@openssh.com","time":"2024-10-03T09:26:51-
04:00"}
{"level":"info","msg":"hostagent socket created at
/Users/mmallin/.colima/_lima/colima/ha.sock","time":"2024-10-03T09:26:51-
04:00"}
{"level":"debug","msg":"QEMU version 9.1.0 detected","time":"2024-10-
03T09:26:52-04:00"}
{"level":"debug","msg":"firmware candidates =
[/Users/mmallin/.local/share/qemu/edk2-aarch64-code.fd
```

```
/opt/homebrew/share/qemu/edk2-aarch64-code.fd /usr/share/AAVMF/AAVMF_CODE.fd  
/usr/share/qemu-efi-aarch64/QEMU_EFI.fd]", "time": "2024-10-03T09:26:52-04:00"}  
{"level": "info", "msg": "Using system firmware  
(\"/opt/homebrew/share/qemu/edk2-aarch64-code.fd\"), "time": "2024-10-  
03T09:26:52-04:00"}  
{"level": "fatal", "msg": "template: :1:21: executing \"\":" at \u003cfd_connect  
\"/Users/mmallin/.colima/_lima/_networks/user-v2/user-v2_qemu.sock\" \u003e:  
error calling fd_connect: fd_connect: dial unix  
/Users/mmallin/.colima/_lima/_networks/user-v2/user-v2_qemu.sock: connect:  
connection refused", "time": "2024-10-03T09:26:52-04:00"}
```

Resolution

```
rm -rf ~/.colima/_lima/_networks
```

This is tracked upstream at: <https://github.com/abiosoft/colima/issues/1116>