Install kubectl on macOS

```
xiaogangdong@Xiaogangs-Air docker-ethereum % kubectl version
Client Version: v1.28.2
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
The connection to the server localhost:8080 was refused - did you specify the right host or port?
xiaogangdong@Xiaogangs-Air docker-ethereum %    curl -LO "https://dl.k8s.io/release/$(curl -L -s https://dl.k8s.io/releas
e/stable.txt)/bin/darwin/arm64/kubectl"

  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100   138  100   138    0     0   2449      0 --:--:-- --:--:-- --:--:--  2464
100 53.0M  100 53.0M    0     0   6921k      0  0:00:07  0:00:07 --:--:-- 7626k
xiaogangdong@Xiaogangs-Air docker-ethereum %
```

Install Kind

```
xiaogangdong@Xiaogangs-Air docker-ethereum % kubectl version --client

Client Version: v1.29.0
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
xiaogangdong@Xiaogangs-Air docker-ethereum % rm kubectl.sha256

rm: kubectl.sha256: No such file or directory
xiaogangdong@Xiaogangs-Air docker-ethereum % brew install kind
==> Downloading https://ghcr.io/v2/homebrew/portable-ruby/portable-ruby/blobs/sha256:d783cbeb6e6ef0d71c0b442317b54554370d
ecd6fac66bf2d4938c07a63f67be
Running `brew update --auto-update`...
######################################################################################################################## 100.0%
==> Pouring portable-ruby-3.1.4.arm64_big_sur.bottle.tar.gz
==> Homebrew collects anonymous analytics.
Read the analytics documentation (and how to opt-out) here:
  https://docs.brew.sh/Analytics
No analytics have been recorded yet (nor will be during this `brew` run).

==> Homebrew is run entirely by unpaid volunteers. Please consider donating:
  https://github.com/Homebrew/brew#donations

==> Auto-updated Homebrew!
Updated 4 taps (homebrew/services, mongodb/brew, homebrew/core and homebrew/cask).
==> New Formulae
action-validator                    pdfrip                         python-rich
amass                               php@8.2                         python-s3transfer
ansible@8                           pivit                          python-setuptools-scm
argc                                purr                           python-termcolor
```

Install Minikube

```
xiaogangdong@Xiaogangs-Air docker-ethereum % brew install minikube
==> Downloading https://ghcr.io/v2/homebrew/core/minikube/manifests/1.32.0
######################################################################################### 100.0%
==> Fetching dependencies for minikube: kubernetes-cli
==> Downloading https://ghcr.io/v2/homebrew/core/kubernetes-cli/manifests/1.29.0
######################################################################################### 100.0%
==> Fetching kubernetes-cli
==> Downloading https://ghcr.io/v2/homebrew/core/kubernetes-cli/blobs/sha256:342175c8b97a09220054b936e0b06bcba56871d8291f
######################################################################################### 100.0%
==> Fetching minikube
==> Downloading https://ghcr.io/v2/homebrew/core/minikube/blobs/sha256:2fa25ebc8759ff50e97f915601eeceb9f02dca260b51f9e858
######################################################################################### 100.0%
==> Installing dependencies for minikube: kubernetes-cli
==> Installing minikube dependency: kubernetes-cli
==> Downloading https://ghcr.io/v2/homebrew/core/kubernetes-cli/manifests/1.29.0
Already downloaded: /Users/xiaogangdong/Library/Caches/Homebrew/downloads/d0d41f71d000ad05213dbc7e5d7e52f266605176972a4e7
0daf2fc1deb794676--kubernetes-cli-1.29.0.bottle_manifest.json
==> Pouring kubernetes-cli--1.29.0.arm64_sonoma.bottle.tar.gz
🍺  /opt/homebrew/Cellar/kubernetes-cli/1.29.0: 234 files, 59.2MB
==> Installing minikube
==> Pouring minikube--1.32.0.arm64_sonoma.bottle.tar.gz
==> Caveats
zsh completions have been installed to:
  /opt/homebrew/share/zsh/site-functions
==> Summary
🍺  /opt/homebrew/Cellar/minikube/1.32.0: 9 files, 87.5MB
==> Running `brew cleanup minikube`...
Disable this behaviour by setting HOMEBREW_NO_INSTALL_CLEANUP.
Hide these hints with HOMEBREW_NO_ENV_HINTS (see `man brew`).
==> Caveats
==> minikube
zsh completions have been installed to:
  /opt/homebrew/share/zsh/site-functions
xiaogangdong@Xiaogangs-Air docker-ethereum % minikube start
😄  minikube v1.32.0 on Darwin 14.2.1 (arm64)
✨  Automatically selected the docker driver. Other choices: vmware, ssh

🛑  Exiting due to RSRC_DOCKER_MEMORY: Docker Desktop only has 1416MiB available, less than the required 1800MiB for Kube
rnetes
💡  Suggestion:

    1. Click on "Docker for Desktop" menu icon
    2. Click "Preferences"
```

```
xiaogangdong@Xiaogangs-Air docker-ethereum % kubectl get po -A

E0113 23:28:02.319345   59200 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api
?timeout=32s": dial tcp [::1]:8080: connect: connection refused
E0113 23:28:02.319996   59200 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api
?timeout=32s": dial tcp [::1]:8080: connect: connection refused
E0113 23:28:02.321167   59200 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api
?timeout=32s": dial tcp [::1]:8080: connect: connection refused
E0113 23:28:02.321629   59200 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api
?timeout=32s": dial tcp [::1]:8080: connect: connection refused
E0113 23:28:02.322708   59200 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api
?timeout=32s": dial tcp [::1]:8080: connect: connection refused
The connection to the server localhost:8080 was refused - did you specify the right host or port?
xiaogangdong@Xiaogangs-Air docker-ethereum % minikube start
😄  minikube v1.32.0 on Darwin 14.2.1 (arm64)
✨  Automatically selected the docker driver. Other choices: vmware, ssh
🐳  Using Docker Desktop driver with root privileges
👍  Starting control plane node minikube in cluster minikube
🚜  Pulling base image ...
💾  Downloading Kubernetes v1.28.3 preload ...
    > preloaded-images-k8s-v18-v1...:  341.16 MiB / 341.16 MiB  100.00% 39.97 M
    > gcr.io/k8s-minikube/kicbase...:  410.58 MiB / 410.58 MiB  100.00% 44.92 M
🔥  Creating docker container (CPUs=2, Memory=1919MB) ...
🐳  Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
    ▪ Generating certificates and keys ...
    ▪ Booting up control plane ...
    ▪ Configuring RBAC rules ...
🔗  Configuring bridge CNI (Container Networking Interface) ...
    ▪ Using image gcr.io/k8s-minikube/storage-provisioner:v5
🔎  Verifying Kubernetes components...
🌟  Enabled addons: storage-provisioner, default-storageclass
🏄  Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
xiaogangdong@Xiaogangs-Air docker-ethereum % kubectl get po -A

NAMESPACE     NAME                               READY   STATUS    RESTARTS   AGE
kube-system   coredns-5dd5756b68-c24fp           1/1     Running   0          30s
kube-system   etcd-minikube                      1/1     Running   0          45s
kube-system   kube-apiserver-minikube            1/1     Running   0          39s
kube-system   kube-controller-manager-minikube   1/1     Running   0          39s
kube-system   kube-proxy-txzs2                    1/1     Running   0          30s
kube-system   kube-scheduler-minikube            1/1     Running   0          45s
kube-system   storage-provisioner                1/1     Running   0          36s
xiaogangdong@Xiaogangs-Air docker-ethereum % kubectl create deployment hello-minikube --image=kicbase/echo-server:1.0

deployment.apps/hello-minikube created
xiaogangdong@Xiaogangs-Air docker-ethereum % kubectl expose deployment hello-minikube --type=NodePort --port=8080

service/hello-minikube exposed
```

```
xiaogangdong@Xiaogangs-Air docker-ethereum % kubectl get services hello-minikube

NAME             TYPE       CLUSTER-IP      EXTERNAL-IP   PORT(S)          AGE
hello-minikube   NodePort   10.108.67.110   <none>        8080:32271/TCP   10s
xiaogangdong@Xiaogangs-Air docker-ethereum % minikube service hello-minikube

|-----------|----------------|-------------|---------------------------|
| NAMESPACE |      NAME      | TARGET PORT |            URL            |
|-----------|----------------|-------------|---------------------------|
| default   | hello-minikube |        8080 | http://192.168.49.2:32271 |
|-----------|----------------|-------------|---------------------------|
🏃  Starting tunnel for service hello-minikube.
|-----------|----------------|-------------|------------------------|
| NAMESPACE |      NAME      | TARGET PORT |          URL           |
|-----------|----------------|-------------|------------------------|
| default   | hello-minikube |             | http://127.0.0.1:62872 |
|-----------|----------------|-------------|------------------------|
🎉  Opening service default/hello-minikube in default browser...
❗  Because you are using a Docker driver on darwin, the terminal needs to be open to run it.
```

Request served by hello-minikube-7f54cff968-s2gg7

HTTP/1.1 GET /

Host: 127.0.0.1:62872
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9,zh-CN;q=0.8,zh;q=0.7,en-GB;q=0.6,zh-TW;q=0.5,ja;q=0.4
Connection: keep-alive
Sec-Ch-Ua: "Google Chrome";v="119", "Chromium";v="119", "Not?A_Brand";v="24"
Sec-Ch-Ua-Mobile: ?0
Sec-Ch-Ua-Platform: "macOS"
Sec-Fetch-Dest: document
Sec-Fetch-Mode: navigate
Sec-Fetch-Site: none
Sec-Fetch-User: ?1
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/119.0.0.0 Safari/537.36