

kube-log-runner (formerly known as go-runner)

The `kube-log-runner` is a Go based binary that can run commands and redirect stdout/stderr etc.

Why do we need this?

- Some of our images like kube-apiserver used bash output redirection for collecting logs, so we were not able to switch to distroless images directly for these images. The klog's `--log-file` parameter was supposed to fix this problem, but we ran into trouble with that in scalability CI jobs that never could get root caused and fixed. Using this binary worked.
- Windows services don't have a mechanism for redirecting output of a process.
- Nowadays, the `--log-file` parameter is deprecated for Kubernetes components and should not be used anymore. `kube-log-runner` is a direct replacement.

For example instead of running kube-apiserver like this:

```
"/bin/sh",
"-c",
"exec kube-apiserver {{params}} --allow-privileged={{pillar['allow_privileged']}}
1>>/var/log/kube-apiserver.log 2>&1"
```

Or this:

```
kube-apiserver {{params}} --allow-privileged={{pillar['allow_privileged']}} --log-
file=/var/log/kube-apiserver.log --alsologtostderr=false"
```

We would use `kube-log-runner` like so:

```
kube-log-runner -log-file=/var/log/kube-apiserver.log --also-stdout=false \
  kube-apiserver {{params}} --allow-privileged={{pillar['allow_privileged']}}
```

The kube-log-runner then ensures that we run the `/usr/local/bin/kube-apiserver` with the specified parameters and redirect both stdout and stderr ONLY to the log file specified. It will always append to the log file.

Possible invocations:

```
# Merge stderr and stdout, write to stdout (same as 2>&1).
kube-log-runner echo "hello world"

# Redirect both into log file (same as 1>>/tmp/log 2>&1).
kube-log-runner -log-file=/tmp/log echo "hello world"

# Copy into log file and print to stdout (same as 2>&1 | tee -a /tmp/log).
kube-log-runner -log-file=/tmp/log -also-stdout echo "hello world"

# Redirect only stdout into log file (same as 1>>/tmp/log).
kube-log-runner -log-file=/tmp/log -redirect-stderr=false echo "hello world"
```

Container base image

The Kubernetes k8s.gcr.io/build-image/go-runner image wraps the `gcr.io/distroless/static` image and provides `kube-log-runner` under its traditional name as `/go-runner`. It gets maintained in <https://github.com/kubernetes/release/tree/master/images/build/go-runner>.

Prebuilt binary

The Kubernetes release archives contain kube-log-runner.