

Kubectl and Go templates



What is a Go Template?

Go templates are a lightweight templating language. When using `kubectl`, they allow you to format the output in custom layouts or extract specific fields from JSON/YAML objects.



Basic Syntax

```
kubectl get <resource> -o go-template='{{ .FIELD }}'
```

- `.` refers to the root object of the resource
- Use dot notation to navigate nested fields
- Use `range`, `if`, `with`, etc. for control logic

Common Examples

1. List Pod Names

```
kubectl get pods -o go-template='{{range .items}}{{.metadata.name}}{{"\n"}}{{end}}'
```

2. Get Pod Names with Status

```
kubectl get pods -o go-template='{{range .items}}{{.metadata.name}}: {{.status.phase}}{{"\n"}}{{end}}'
```

3. Get External IPs of Services

```
kubectl get svc -o go-template='{{range .items}}{{.metadata.name}}: {{range .status.loadBalancer.ingress}}{{.ip}}{{end}}{{"\n"}}{{end}}'
```



Output Specific Field (Single Object)

```
kubectl get pod my-pod -o go-template='{{.status.podIP}}'
```

This works when querying a single object (`my-pod`), not a list.



List Deployments and Their Replicas

```
kubectl get deploy -o go-template='{{range .items}}{{.metadata.name}}: {{.status.replicas}}{{"\n"}}{{end}}'
```

Using `go-template-file`

You can write a `.tpl` file:

template.tpl

```
{{range .items}}{{.metadata.name}} - {{.status.phase}}{{"\n"}}{{end}}
```

Run it with:

```
kubectl get pods -o go-template-file=template.tpl
```



Conditional Output

```
kubectl get pods -o go-template='{{range .items}}{{if eq .status.phase "Running"}}{{.metadata.name}}{{"\n"}}{{end}}{{end}}'
```

Only shows pods that are **Running**.



Go Template Functions

You can use built-in Go functions:

```
kubectl get pods -o go-template='{{range .items}}{{.metadata.name | upper}}{{"\n"}}{{end}}'
```

“ Note: Only some basic functions like `print`, `join`, `eq`, `upper`, etc., are available. ”

✓ Summary Table

Task	Template
Pod names	<pre>{{range .items}}{{.metadata.name}}{{"\n"}}{{end}}</pre>
Pod name & status	<pre>{{range .items}}{{.metadata.name}}:{{.status.phase}}{{"\n"}}{{end}}</pre>
Pod IP	<pre>{{.status.podIP}}</pre> (single)
External service IP	<pre>{{range .items}}{{.metadata.name}}: {{range .status.loadBalancer.ingress}}{{.ip}}{{end}}{{"\n"}}{{end}}</pre>
Conditional Running Pods	<pre>{{range .items}}{{if eq .status.phase "Running"}}{{.metadata.name}}{{"\n"}}{{end}}{{end}}</pre>