



Manifest & Templating



Manifest

dev

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deploy
  namespace: dev
spec:
  replicas: 1
  selector:
    matchLabels:
      app: nginx-app
  template:
    metadata:
      name: nginx-pod
      labels:
        app: nginx-app
    spec:
      containers:
        - name: nginx-container
          image: nginx:1.18.0
```

staging

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deploy
  namespace: staging
spec:
  replicas: 2
  selector:
    matchLabels:
      app: nginx-app
  template:
    metadata:
      name: nginx-pod
      labels:
        app: nginx-app
    spec:
      containers:
        - name: nginx-container
          image: nginx:1.18.1
```

prod

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deploy
  namespace: prod
spec:
  replicas: 3
  selector:
    matchLabels:
      app: nginx-app
  template:
    metadata:
      name: nginx-pod
      labels:
        app: nginx-app
    spec:
      containers:
        - name: nginx-container
          image: nginx:1.18.2
```

Templating

base.yaml

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deploy
  namespace: {{.Values.namespace}}
spec:
  replicas: {{.Values.replicas}}
  selector:
    matchLabels:
      app: nginx-app
  template:
    metadata:
      name: nginx-pod
      labels:
        app: nginx-app
    spec:
      containers:
      - name: nginx-container
        image: nginx:{{.Values.dockerTag}}
```

dev

```
# values.yaml
namespace: dev
replicas: 1
dockerTag: 1.18.0
```

staging

```
# values.yaml
namespace: staging
replicas: 2
dockerTag: 1.18.1
```

prod

```
# values.yaml
namespace: prod
replicas: 3
dockerTag: 1.18.2
```



myapp/

```
Chart.yaml      # A YAML file containing information about the chart
LICENSE         # OPTIONAL: A plain text file containing the license for the chart
README.md       # OPTIONAL: A human-readable README file
requirements.yaml # OPTIONAL: A YAML file listing dependencies for the chart
values.yaml     # The default configuration values for this chart
charts/         # A directory containing any charts upon which this chart depends.
templates/      # A directory of templates that, when combined with values,
                # will generate valid Kubernetes manifest files.
templates/NOTES.txt # OPTIONAL: A plain text file containing short usage notes
```

```
helm create myapp
```

```
helm package myapp
```

```
helm install .\myapp\ --name myapp-chart
```

```
helm ls
```

```
helm status myapp-chart
```

```
helm delete myapp-chart
```

Directory Structure

myapp

```
├── base
│   └── nginx-deploy.yaml
├── overlays
│   ├── dev
│   │   └── kustomization.yaml
│   ├── staging
│   │   └── kustomization.yaml
│   └── prod
│       └── kustomization.yaml
```

base/nginx-deploy.yaml

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deploy
spec:
  selector:
    matchLabels:
      app: nginx-app
  template:
    metadata:
      name: nginx-pod
      labels:
        app: nginx-app
    spec:
      containers:
        - name: nginx-container
          image: nginx:1.18.0
```

overlays/prod/kustomization.yaml

```
# myapp/overlays/prod/kustomization.yaml
apiVersion: kustomize.config.k8s.io/v1beta1
kind: Kustomization

resources:
- ../../base/deployment.yaml
namespace: prod
replicas:
- name: nginx-deploy
  count: 3
images:
- name: nginx
  newTag: 1.18.2
commonLabels:
  environment: production
```

```
cd myapp/overlays/prod/
```

```
kustomize build .
```

```
kustomize build . > prod-nginx-config.yaml
```

```
kustomize build . | kubectl apply -f
```

```
kubectl apply -k myapp/overlays/prod/
```