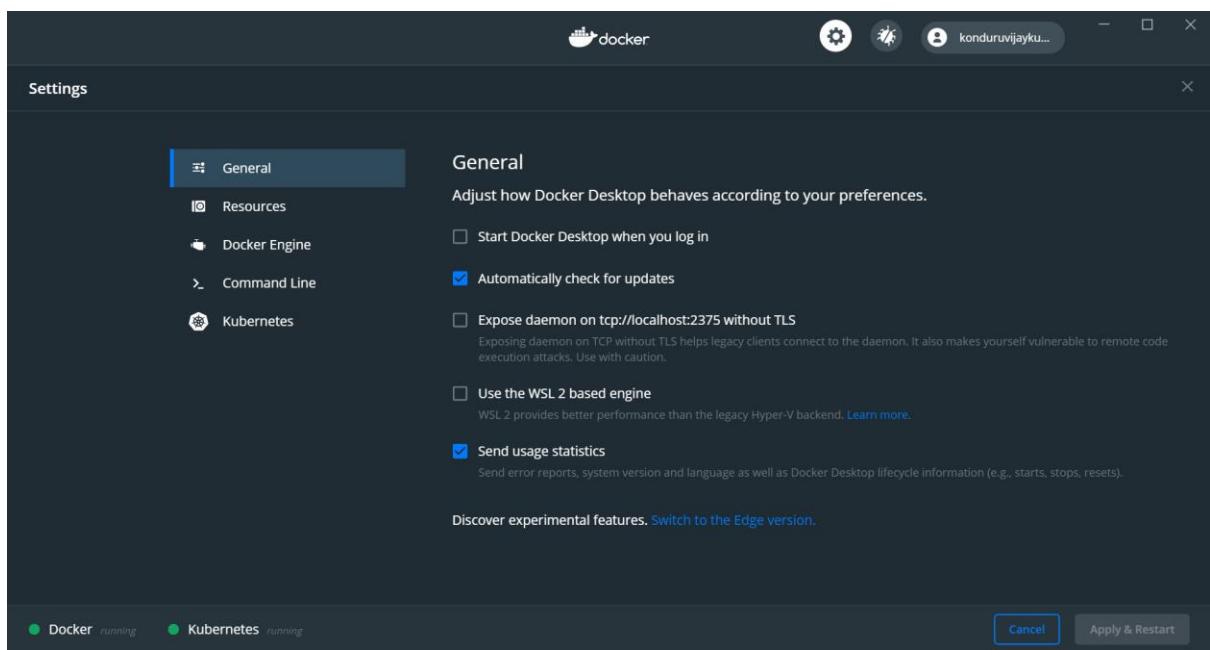
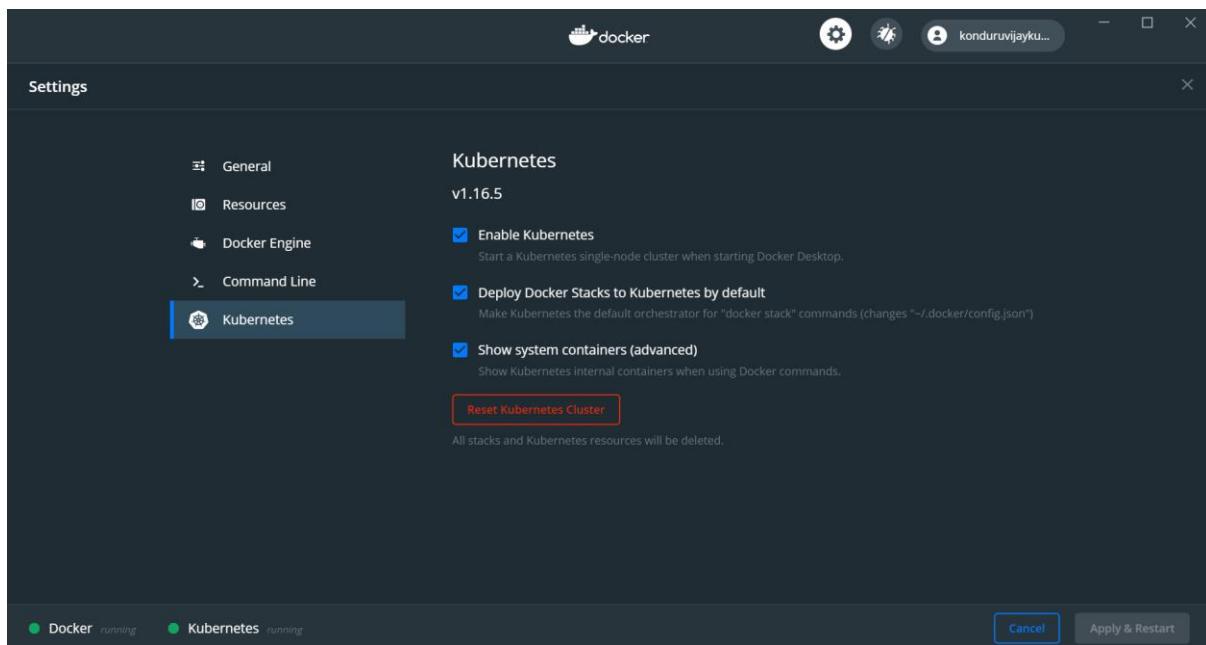
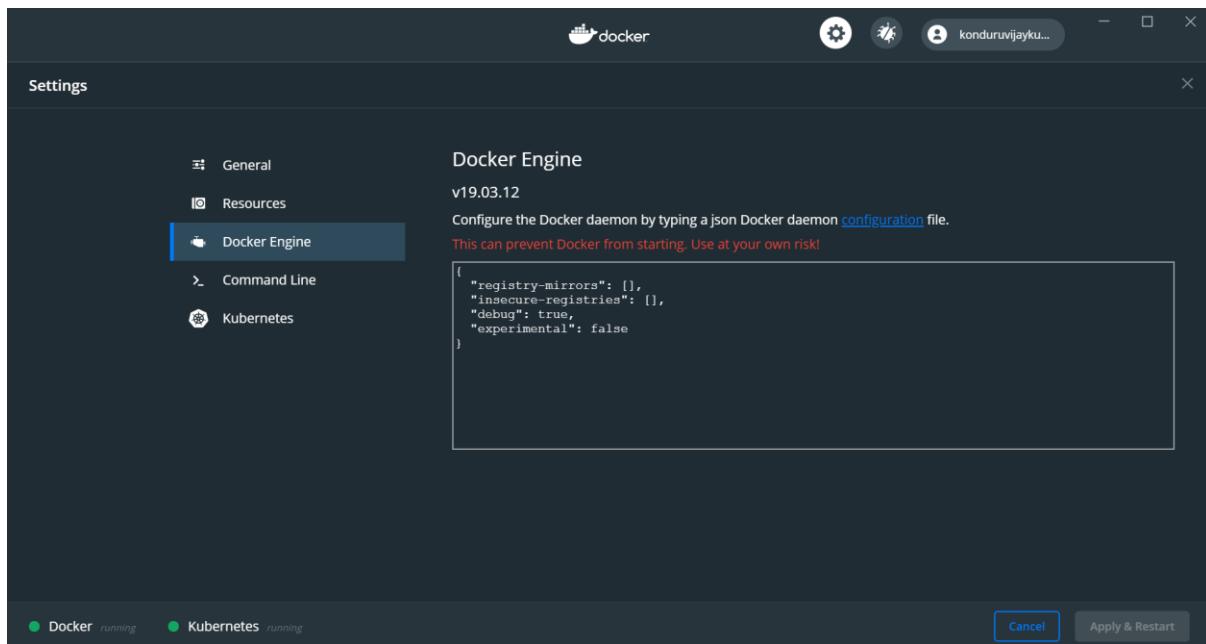
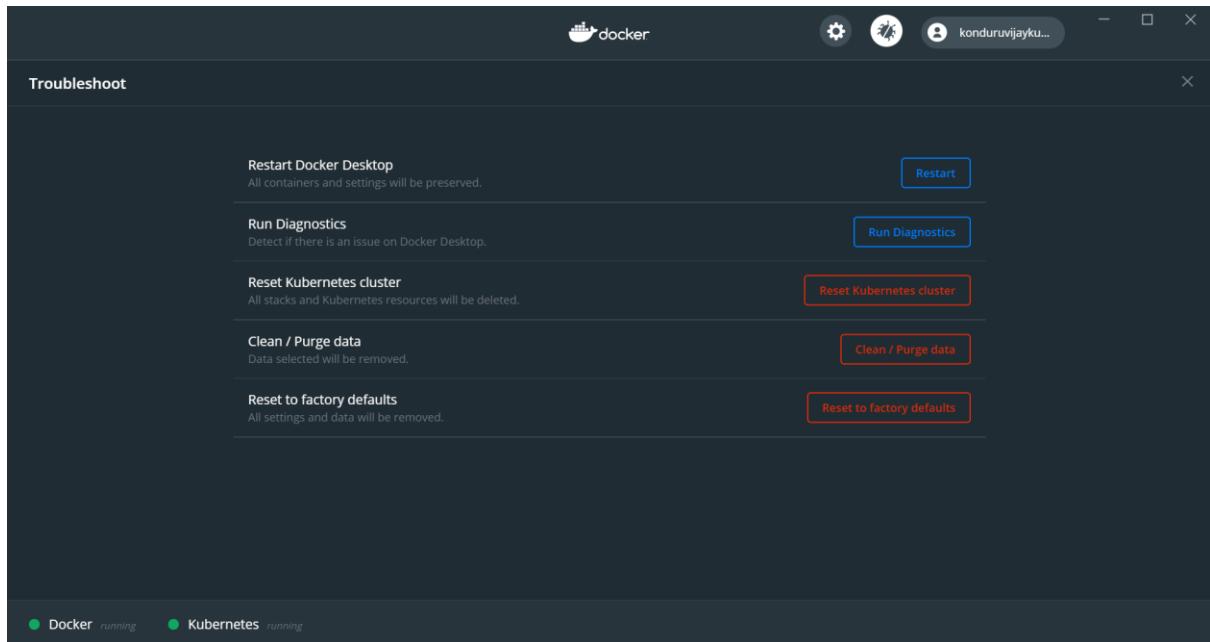


k8s-example1 related document







<https://kubernetes.io/docs/tasks/access-application-cluster/web-ui-dashboard/>

The screenshot shows a browser window with multiple tabs open, all related to Kubernetes documentation. The main content is the "Deploying the Dashboard UI" page. It features a search bar, a sidebar with navigation links, and a central area with text and code snippets. A red warning box is present, and a sidebar on the right lists related topics.

Deploying the Dashboard UI

The Dashboard UI is not deployed by default. To deploy it, run the following command:

```
kubectl apply -f https://raw.githubusercontent.com/kubernetes/dashboard/v2.0.0/
```

Accessing the Dashboard UI

To protect your cluster data, Dashboard deploys with a minimal RBAC configuration by default. Currently, Dashboard only supports logging in with a Bearer Token. To create a token for this demo, you can follow our guide on [creating a sample user](#).

Warning: The sample user created in the tutorial will have administrative privileges and is for educational purposes only.

Command line proxy

You can access Dashboard using the kubectl command-line tool by running the

[Edit this page](#) [Create an issue](#)

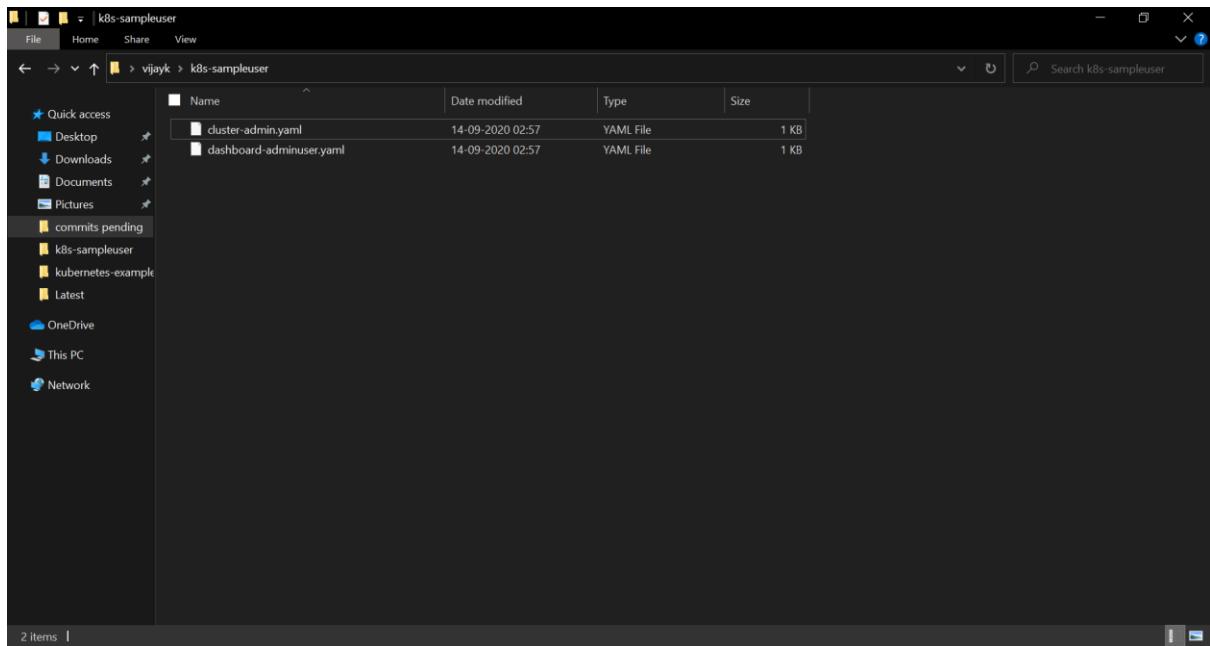
- Deploying the Dashboard UI
- Accessing the Dashboard UI
- Command line proxy
- Welcome view
- Deploying containerized applications
- Specifying application details
- Uploading a YAML or JSON file

```
C:\Windows\System32\cmd.exe
C:\Users\vijayk\Desktop\commits pending\imp\kubernetes-work>kubectl apply -f https://raw.githubusercontent.com/kubernetes/dashboard/v2.0.0/aio/deploy/recommended.yaml
namespace/kubernetes-dashboard created
serviceaccount/kubernetes-dashboard created
service/kubernetes-dashboard created
secret/kubernetes-dashboard-certs created
secret/kubernetes-dashboard-csrf created
secret/kubernetes-dashboard-key-holder created
configmap/kubernetes-dashboard-settings created
role.rbac.authorization.k8s.io/kubernetes-dashboard created
clusterrole.rbac.authorization.k8s.io/kubernetes-dashboard created
rolebinding.rbac.authorization.k8s.io/kubernetes-dashboard created
clusterrolebinding.rbac.authorization.k8s.io/kubernetes-dashboard created
deployment.apps/kubernetes-dashboard created
service/dashboard-metrics-scraper created
deployment.apps/dashboard-metrics-scraper created

C:\Users\vijayk\Desktop\commits pending\imp\kubernetes-work>
```

<https://github.com/kubernetes/dashboard/blob/master/docs/user/access-control/creating-sample-user.md>

<https://github.com/kubernetes/dashboard/tree/master/docs>



C:\Users\vijayk\k8s-sampleuser\dashboard-adminuser.yaml - Sublime Text (UNREGISTERED)

```
1 apiVersion: v1
2 kind: ServiceAccount
3 metadata:
4   name: admin-user
5   namespace: kubernetes-dashboard
```

Line 3, Column 10

Spaces: 2

YAML

C:\Users\vijayk\k8s-sampleuser\cluster-admin.yaml - Sublime Text (UNREGISTERED)

```
1 apiVersion: rbac.authorization.k8s.io/v1
2 kind: ClusterRoleBinding
3 metadata:
4   name: admin-user
5   roleRef:
6     apiGroup: rbac.authorization.k8s.io
7     kind: ClusterRole
8     name: cluster-admin
9   subjects:
10  - kind: ServiceAccount
11    name: admin-user
12    namespace: kubernetes-dashboard
```

Line 12, Column 34

Spaces: 2

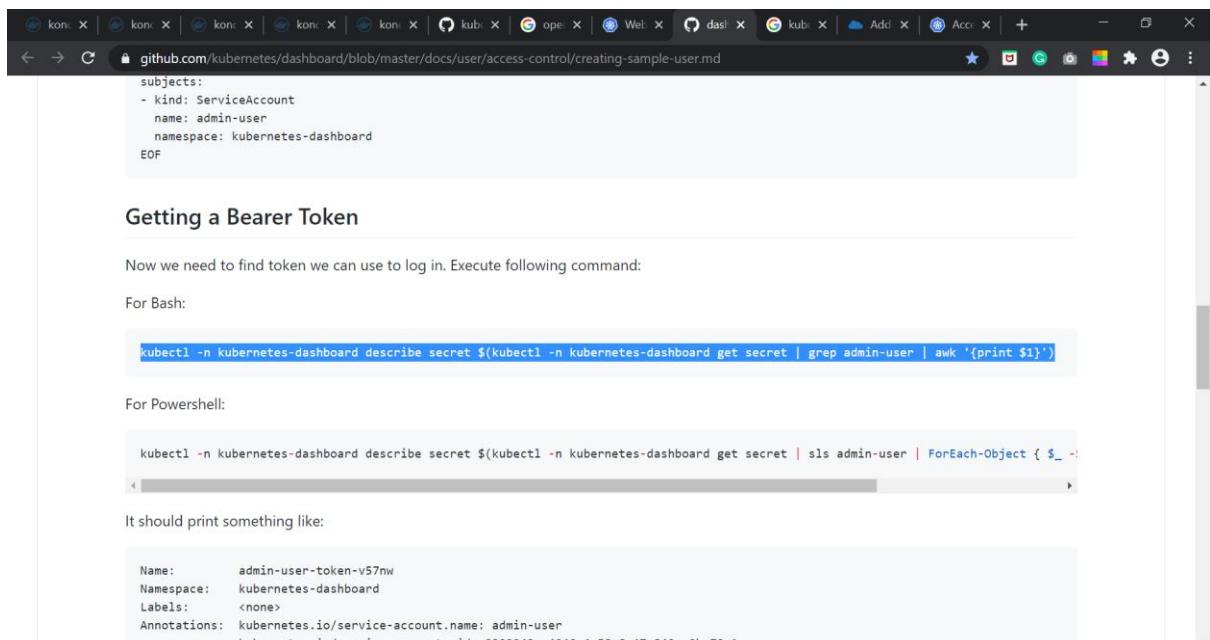
YAML



```
C:\Windows\System32\cmd.exe
C:\Users\vijayk\k8s-sampleuser>kubectl apply -f dashboard-adminuser.yaml
serviceaccount/admin-user created

C:\Users\vijayk\k8s-sampleuser>kubectl apply -f cluster-admin.yaml
clusterrolebinding.rbac.authorization.k8s.io/admin-user created

C:\Users\vijayk\k8s-sampleuser>
```



subjects:

- kind: ServiceAccount
name: admin-user
namespace: kubernetes-dashboard

Getting a Bearer Token

Now we need to find token we can use to log in. Execute following command:

For Bash:

```
kubectl -n kubernetes-dashboard describe secret $(kubectl -n kubernetes-dashboard get secret | grep admin-user | awk '{print $1}')
```

For Powershell:

```
kubectl -n kubernetes-dashboard describe secret $(kubectl -n kubernetes-dashboard get secret | Select-Object -s admin-user | ForEach-Object { $_. ->
```

It should print something like:

Name: admin-user-token-v57nw
Namespace: kubernetes-dashboard
Labels: <none>
Annotations: kubernetes.io/service-account.name: admin-user kubernetes.io/service-account.uid: 0303243c-4040-4a58-8a47-849ee9ba79c1

```

MINGW64:/c/Users/vijayk/k8s-sampleuser
vijayk@DESKTOP-0M5LG0Q MINGW64 ~/k8s-sampleuser
$ kubectl -n kubernetes-dashboard describe secret $(kubectl -n kubernetes-dashboard get secret | grep admin-user | awk '{print $1}')
Name:      admin-user-token-ff6xn
Namespace: kubernetes-dashboard
Labels:   <none>
Annotations:  kubernetes.io/service-account.name: admin-user
              kubernetes.io/service-account.uid: f00d0579-e67f-400a-8835-a02a4e9a7b58

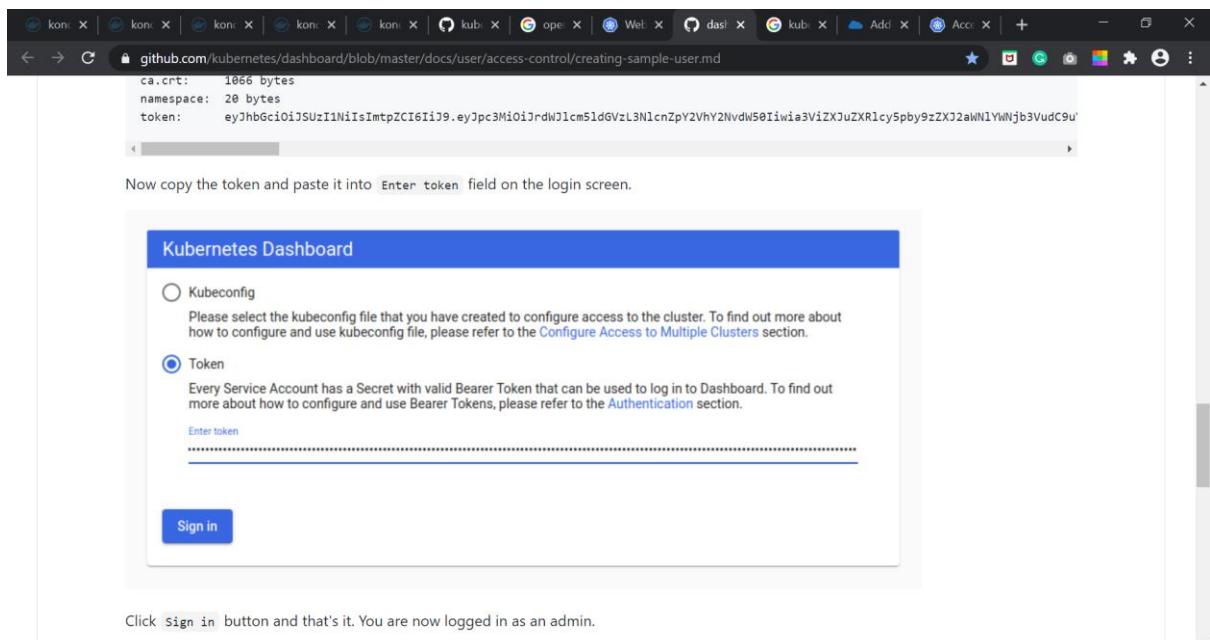
Type:  kubernetes.io/service-account-token

Data
====
namespace:  20 bytes
token:      eyJhbGciOiJSUzI1NiIiHSmp2Cj61Ie4aGnsaXclamFyNw8JwlkjQZNCem2nMEhCYwLNMLT5QVvZX0Rmc1NLQesifQ_exJpc3MiOijrdw0JlcmSldGVzL3N1cn2pY2vhY2Nvdw502iwiia3Vi2XJu2X8lcyspbv9zz
y9z2aM1NyNjB3vudG9uYw11cBhjY2U01Jndw1Jm51dov2LwRHc2h1b2FyZCtsImtLYmVybVOZMuaw8vz2VvdmljZvifjY291bnvvc2jcm0Lm5hbhwj01jhZGlabh11c2vlyXvav2vuLw2mnhu1wia3V1ZXJu2X8lcyspb
y9z2aM1NyNjB3vudG9zZ02aM1LWfY291bnQubmFZSI6ImFkbw1uLXVzZXfLCJrJw1Jcms1dgv1m1v13N1cnZpY2vhY2Nvdw503n1cn2pY2utVwhjb3VuCs1aW1o1jmOBkNDU3051Njdm_TQwKGEtDgZnS1hM
DjhngusYTd1NTg1lC1zdwi1o1j2exXN0Zw06c2ydm1jZwfjY291bnQ6a3V1ZXJu2X8R1cy1kYXNoym91cmq6Ywhrtaw4txN1ci19_Ubolp5gaFNEU0H81G32bh_vri9qspxF1p0olH48EyaBy1chpITIyHEBHf6ptR8PbQe9_f3z
QJDF55acYFKY3Crp0EU17z750Ms14cSc1VKX_MVjR1n6fdmagztEvxSE0OpZB5SYxivmTHmfPvnzy1mzgttGeWgh0_s0Bnvhha6GspborSSbuHB31Nz27Q319hd1TqnNU1wdMAYy_xV71l9q0FzIfdoogqjpmwpZw02a1b39m
e30rmLBbCQNrxds5k-7qRrTaiaW8ybeufQqr0Gcl61vqe5K_BSkk3y-LD_Cxm90LpycsN0qyhqY1yduvATb3EwFbg1_KL4w
ca.crt:  1025 bytes
$
```

The screenshot shows a web browser window with the URL kubernetes.io/docs/tasks/access-application-cluster/web-ui-dashboard/. The page content includes:

- kubernetes** logo and navigation menu.
- A warning message: "Warning: The sample user created in the tutorial will have administrative privileges and is for educational purposes only."
- Command line proxy** section: "You can access Dashboard using the kubectl command-line tool by running the following command:
`kubectl proxy`
- Text explaining the proxy command: "Kubectl will make Dashboard available at <http://localhost:8001/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard/proxy/>. The UI can *only* be accessed from the machine where the command is executed. See `kubectl proxy --help` for more options."
- Note:** "Kubeconfig Authentication method does NOT support external identity providers or x509 certificate-based authentication."
- Right sidebar with links: "Edit this page", "Create an issue", "Deploying the Dashboard UI", "Accessing the Dashboard UI", "Command line proxy", "Welcome view", "Deploying containerized applications", "Specifying application details", and "Uploading a YAML or JSON file".

```
C:\Windows\System32\cmd.exe - kubectl proxy  
C:\Users\vijayk\Desktop\commits pending\imp\kubernetes-work>kubectl apply -f https://raw.githubusercontent.com/kubernetes/dashboard/v2.0.0/aio/deploy/recommended.yaml  
namespace/kubernetes-dashboard created  
serviceaccount/kubernetes-dashboard created  
service/kubernetes-dashboard created  
secret/kubernetes-dashboard-certs created  
secret/kubernetes-dashboard-csrf created  
secret/kubernetes-dashboard-key-holder created  
configmap/kubernetes-dashboard-settings created  
role.rbac.authorization.k8s.io/kubernetes-dashboard created  
clusterrole.rbac.authorization.k8s.io/kubernetes-dashboard created  
rolebinding.rbac.authorization.k8s.io/kubernetes-dashboard created  
clusterrolebinding.rbac.authorization.k8s.io/kubernetes-dashboard created  
deployment.apps/kubernetes-dashboard created  
service/dashboard-metrics-scraper created  
deployment.apps/dashboard-metrics-scraper created  
  
C:\Users\vijayk\Desktop\commits pending\imp\kubernetes-work>kubectl proxy  
Starting to serve on 127.0.0.1:8001
```



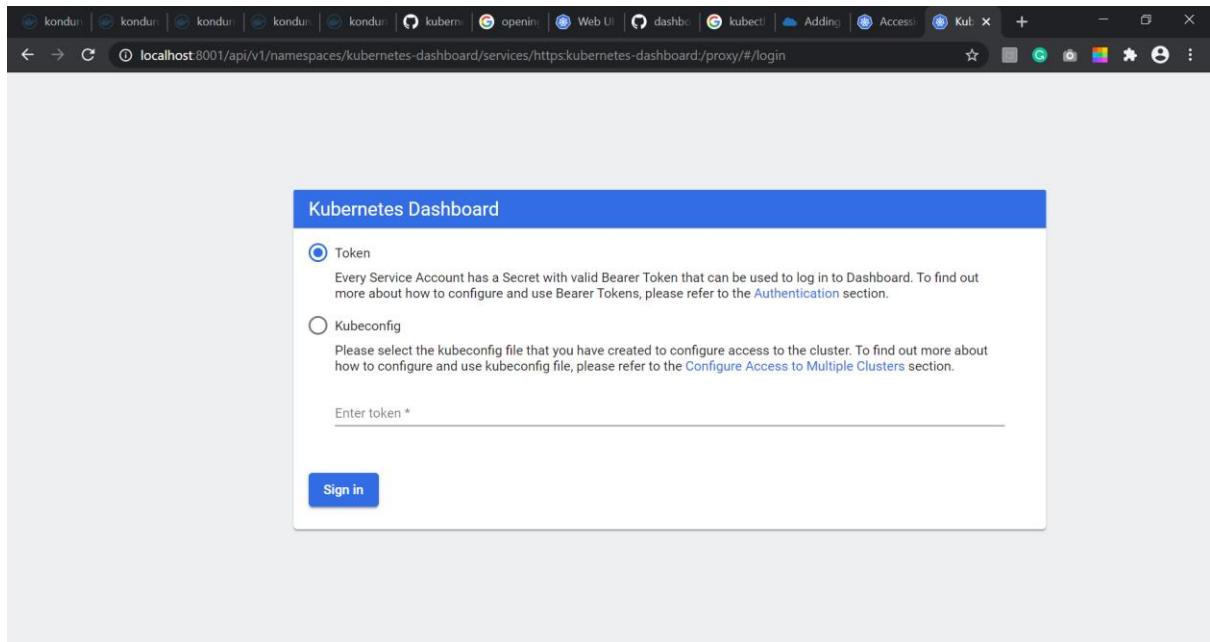
The screenshot shows a web browser window with multiple tabs open. The active tab is a GitHub page titled "github.com/kubernetes/dashboard/blob/master/docs/user/access-control/creating-sample-user.md". The page content shows a sample token:

```
ca.crt: 1066 bytes  
namespace: 20 bytes  
token: eyJhbGciOiJSUzI1NiIsImtpZCI6IiJ9.eyJpc3MiOiJrdWJlcm5ldGVzL3N1cnZpY2VhY2NvdW50Iiwia3ViZXJuZXQiLC5pb3YzXJ2akN1YmNjb3VudC9u...
```

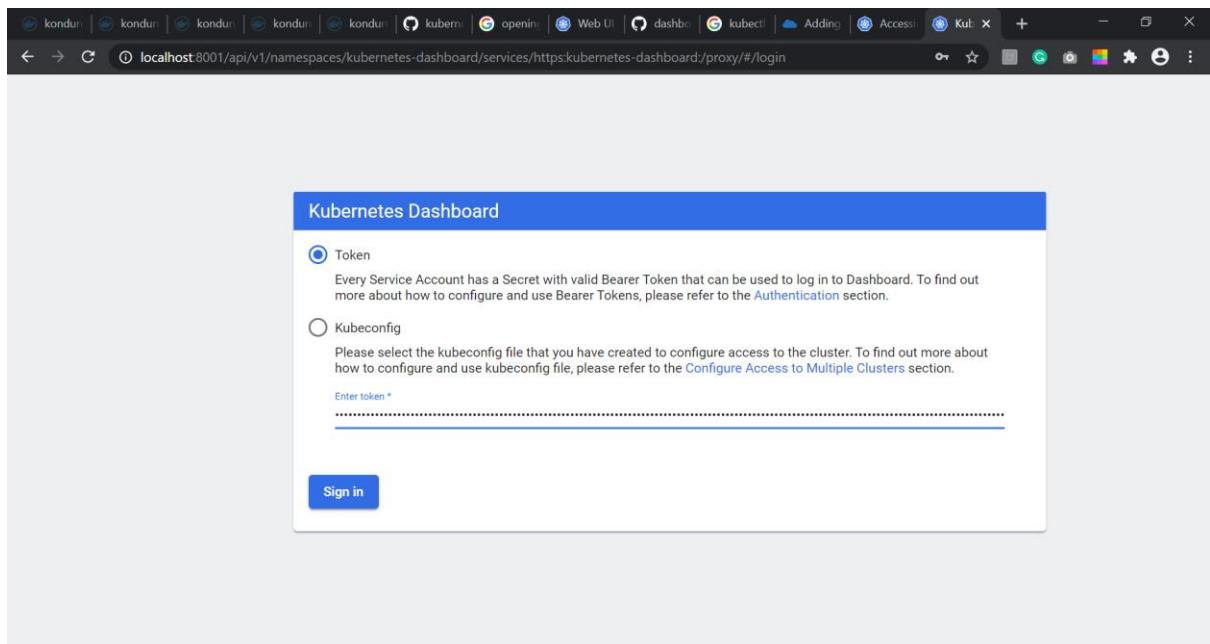
Below the code, there is a note: "Now copy the token and paste it into `Enter token` field on the login screen."

The browser then displays the Kubernetes Dashboard login interface. It has a blue header bar with the text "Kubernetes Dashboard". Below the header, there are two radio button options: "Kubeconfig" and "Token". The "Token" option is selected. A descriptive text follows: "Every Service Account has a Secret with valid Bearer Token that can be used to log in to Dashboard. To find out more about how to configure and use Bearer Tokens, please refer to the [Authentication](#) section." Below this text is a text input field labeled "Enter token" with a dotted placeholder. At the bottom of the form is a blue "Sign in" button.

At the bottom of the browser window, there is a footer note: "Click `Sign in` button and that's it. You are now logged in as an admin."



```
MINGW64:/c/Users/vijayk/k8s-sampleuser
$ vijayk@DESKTOP-OM51GCO MINGW64 ~ /k8s-sampleuser
$ kubectl -n kubernetes-dashboard describe secret $(kubectl -n kubernetes-dashboard get secret | grep admin-user | awk '{print $1}')
Name:         admin-user-token-ff6vn
Namespace:   kubernetes-dashboard
Labels:      <none>
Annotations: kubernetes.io/service-account.name: admin-user
              kubernetes.io/service-account.uid: f00d0579-e67f-400a-8835-a02a4e9a7b58
Type:        kubernetes.io/service-account-token
Data
=====
token:       eyJhbGciOiJSUzI1NiIsImtpZCI6IxE4aNseXclamFyNw93wIRjQ2NCemZnMEhCYwInMlI5QVVZXORmc1NLQm81fQ,eyJpc3Ml013rdwJ1cm51dGVzL3n1cnZpY2hY2Nvdw50Iwiia3V1ZXJuZXR1cy5pbv9z2XJ2aN1YwN3b3vudc9uYw1c3bhY2U1O1JdwJ1cm51d0vzLwRhc2h1b2FyZCIsIm1Ymvybm0ZxmuaW8vc2VvdmljzwFjY291bnQvc2VjcmV0Lm5hbwIo1jhZG1pb1l1c2VylXRva2vulZmnhnU1wiia3V1ZXJuZXR1cy5pbv9z2y9z2XJ2aN1YwN3b3vudc9zXJ2awNTlwFjY291bnQubmFtZS16ImFkbwUlLxvZx1iLCjrdwJ1cm51d0vz1mlv1.3n1cnZpY2hY2Nvdw50L3n1cnZpY2utvNjb3VudC51aw1o1jmDBkMDU30S11njdmLToWmGETODgznS1hM0JHNGuSYd1NTg1LCj2dwI1o1JzeXN0Zw06c2VvdmljzwFjY291bnQ6a3V1ZXJuZXR1cy1kYXNoYm9hcmQ6YwRtaw4tdxN1ci39.Ubd0Lp5gaFwEoh81G32dh_vvi9QsgxF1pqOLH48EyAdx1chpIIIXHEBHF6ptR8PbQE9_f3320jbPF55acyFKWY3Crp0EU1/z750Ms14cSCIVKX_MV1jR1n6fdmagztEvxSE0vpZ2B5yx1vmTHmtPvnZv1mzgtEgewdn_o_s0BnvhaAGSpborssbuHB311N2270319hdJ1qnNu1wdMAVY_Xv711960Fz1fd0gjqpmwpZw02a1b9We30rnLbbCQNrx0Sk-7qRrt1aw8beuf0qr0Gcl61vQe5k_BSKK3y-LD_Cxm90LpcysN0aqyhqY1YxdvVATb3EwfB1_KL4v
ca.crt:      1025 bytes
$
```



The screenshot shows the Kubernetes Dashboard Overview page. At the top, there is a navigation bar with various icons and links. Below it, a blue header bar says "kubernetes". The main content area has a sidebar on the left with sections for Cluster (Cluster Roles, Namespaces, Nodes, Persistent Volumes, Storage Classes), Workloads (Cron Jobs, Daemon Sets, Deployments), and Config and Storage (Secrets). The main panel displays "Discovery and Load Balancing" and "Services". The "Services" table lists one service named "kubernetes" in the "default" namespace. The table columns are: Name, Namespace, Labels, Cluster IP, Internal Endpoints, External Endpoints, and Created. The "kubernetes" entry has the following details: component: apiserver, provider: kubernetes, Cluster IP: 10.96.0.1, Internal Endpoints: kubernetes:443, External Endpoints: kubernetes:0, and Created: 3 months ago. Below the table, there is a pagination indicator showing 1 - 1 of 1. The sidebar also shows a "Overview" tab is selected.

Docker work

```
vijayk@DESKTOP-0MSLGQQ MINGW64 ~/git/kubernetes-examples/k8s-example1/kubernetes-app1
$ docker build -t konduruvijaykumar/kubernetes-app1:v2.0 .
Sending build context to Docker daemon 139.3kB
Step 1/2 : FROM tomcat:8-jre8
--> 3639174793ba
Step 2/2 : ADD ./target/app1.war /usr/local/tomcat/webapps/
ADD failed: stat /var/lib/docker/tmp/docker-builder585775080/target/app1.war: no such file or directory
vijayk@DESKTOP-0MSLGQQ MINGW64 ~/git/kubernetes-examples/k8s-example1/kubernetes-app1 (master)
$ javac -version
javac 1.8.0_192
vijayk@DESKTOP-0MSLGQQ MINGW64 ~/git/kubernetes-examples/k8s-example1/kubernetes-app1 (master)
$ mvn install
```

```
vijayk@DESKTOP-0MSLGQQ MINGW64 ~/git/kubernetes-examples/k8s-example1/kubernetes-app1

:: Spring Boot ::          (v2.2.7.RELEASE)

2020-09-14 03:40:46.954  INFO 8568 --- [           main] o.p.k8s.KubernetesApp1ApplicationTests : Starting KubernetesApp1ApplicationTests on DESKTOP-0MSLGQQ with PID 8568
2020-09-14 03:40:46.957  INFO 8568 --- [           main] o.p.k8s.KubernetesApp1ApplicationTests : No active profile set, falling back to default profiles: default
2020-09-14 03:40:50.493  INFO 8568 --- [           main] o.s.s.concurrent.ThreadPoolTaskExecutor : Initializing ExecutorService 'applicationTaskExecutor'
2020-09-14 03:40:51.779  INFO 8568 --- [           main] o.s.b.a.e.web.EndpointLinksResolver : Exposing 2 endpoint(s) beneath base path '/actuator'
2020-09-14 03:40:51.917  INFO 8568 --- [           main] o.p.k8s.KubernetesApp1ApplicationTests : Started KubernetesApp1ApplicationTests in 5.515 seconds (JVM running for 7.768)
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 7.262 s - in org.pjay.k8s.KubernetesApp1ApplicationTests
2020-09-14 03:40:52.680  INFO 8568 --- [extShutdownHook] o.s.s.concurrent.ThreadPoolTaskExecutor : Shutting down ExecutorService 'applicationTaskExecutor'
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- maven-war-plugin:3.2.3:war (default-war) @ kubernetes-app1 ---
[INFO] Packaging webapp
[INFO] Assembling webapp [kubernetes-app1] in [C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\target\app1]
[INFO] Processing war project
[INFO] Webapp assembled in [610 ms]
[INFO] Building war: C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\target\app1.war
[INFO] --- spring-boot-maven-plugin:2.2.7.RELEASE:repackage (repackage) @ kubernetes-app1 ---
[INFO] Replacing main artifact with repackaged archive
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ kubernetes-app1 ---
[INFO] Installing C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\target\app1.war to C:\Users\vijayk\.m2\repository\org\pjay\kubernetes-app1\0.0.1-SNAPSHOT\kubernetes-app1-0.0.1-SNAPSHOT.war
[INFO] Installing C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\pom.xml to C:\Users\vijayk\.m2\repository\org\pjay\kubernetes-app1\0.0.1-SNAPSHOT\kubernetes-app1-0.0.1-SNAPSHOT.pom
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 19.742 s
[INFO] Finished at: 2020-09-14T03:40:57+05:30
[INFO] -----
```

```

MINGW64:/c/Users/vijayk/git/kubernetes-examples/k8s-example1/kubernetes-app1
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- maven-war-plugin:3.2.3:war (default-war) @ kubernetes-app1 ---
[INFO] Packaging war...
[INFO] Packaging war [kubernetes-app1] in [C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\target\app1]
[INFO] Processing war project
[INFO] Copying war resources [C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\src\main\webapp]
[INFO] Webapp assembled in [610 msecs]
[INFO] Building war: C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\target\app1.war
[INFO]
[INFO] --- spring-boot-maven-plugin:2.2.7.RELEASE:repackage (repackage) @ kubernetes-app1 ---
[INFO] Replacing main artifact with repackaged archive
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ kubernetes-app1 ---
[INFO] Installing C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\target\app1.war to C:\Users\vijayk\.m2\repository\org\pjay\kubernetes-app1\0.0.1-SNAPSHOT\kubernetes-app1-0.0.1-SNAPSHOT.war
[INFO] Installing C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\pom.xml to C:\Users\vijayk\.m2\repository\org\pjay\kubernetes-app1\0.0.1-SNAPSHOT\kubernetes-app1-0.0.1-SNAPSHOT.pom
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 19.742 s
[INFO] Finished at: 2020-09-14T03:40:57+05:30
[INFO] -----
vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples/k8s-example1/kubernetes-app1 (master)
$ 
vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples/k8s-example1/kubernetes-app1 (master)
$ 
vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples/k8s-example1/kubernetes-app1 (master)
$ 

vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples/k8s-example1/kubernetes-app1 (master)
$ docker build -t konduruvijaykumar/kubernetes-app1:v2.0 .
Sending build context to Docker daemon 48.44MB
Step 1/2 : FROM tomcat:8-jre8
--> 3639174793ba
Step 2/2 : ADD ./target/app1.war /usr/local/tomcat/webapps/
Successfully built 6b020b14542b
Successfully tagged konduruvijaykumar/kubernetes-app1:v2.0
SECURITY WARNING: You are building a Docker image from Windows against a non-Windows Docker host. All files and directories added to build context will have '-rwxr-xr-x' permissions. It is recommended to double check and reset permissions for sensitive files and directories.
vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples/k8s-example1/kubernetes-app1 (master)
$ 

```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
konduruvijaykumar/kubernetes-app1	v2.0	454c8e520761	3 months ago	507MB
konduruvijaykumar/springboot-mvc-studentinfo	v2.0	092291a0999b	3 months ago	507MB
konduruvijaykumar/springboot-mvc-studentinfo	v1.0	1c5f6cd937b5	4 months ago	265MB
openjdk	8-jre	1077d3b5882	4 months ago	510MB
openjdk	8	883d22733bd3	4 months ago	222MB
kubernetesui/dashboard	v2.0.0	8626232653ab	5 months ago	36.9MB
ubuntu:16.04/mesos-ecraper	v1.0.4	e704267ce753	5 months ago	41.4MB
docker/desktop-storage-provisioner	v1.1	605a0f663b7b	6 months ago	33.1MB
docker/desktop-storage-provisioner	v1.0	79da37e5a3aa	6 months ago	36.6MB
docker/desktop-vpnkit-controller	v1.0	a86647f0b376	7 months ago	279MB
docker/desktop-kubernetes	kubernetes-v1.16.5-cni-v0.7.5-critools-v1.15.0	b4d073a9efda	8 months ago	83.5MB
k8s.gcr.io/kube-scheduler	v1.16.5	0ee1b8a3eb0	8 months ago	82.7MB
k8s.gcr.io/kube-proxy	v1.16.5	441835dd2301	8 months ago	151MB
k8s.gcr.io/kube-controller-manager	v1.16.5	fc8388021a7bb0	8 months ago	159MB
k8s.gcr.io/kube-apiserver	v1.16.5	129341cdcf53f	10 months ago	35.6MB
docker/kube-compose-controller	v0.4.25-alpha1	959749550395	10 months ago	50.4MB
docker/kube-compose-api-server	v0.4.25-alpha1	2a71ac5a1359	10 months ago	42.5MB
docker/kube-compose-installer	v0.4.25-alpha1	cbdf721fecc9	11 months ago	82.4MB
k8s.gcr.io/kube-proxy	v1.15.5	1399a72ffal9	11 months ago	159MB
k8s.gcr.io/kube-controller-manager	v1.15.5	e534b1952a0d	11 months ago	207MB
k8s.gcr.io/kube-scheduler	v1.15.5	fab2ded59d	11 months ago	81.1MB
k8s.gcr.io/etcfd	3.3.15-0	b2756210eab	12 months ago	247MB
k8s.gcr.io/coredns	1.6.2	bf261d157914	13 months ago	44.1MB
docker/kube-compose-controller	v0.4.23	a8c3d87a58e7	15 months ago	35.3MB
docker/kube-compose-api-server	v0.4.23	f35912e2223	15 months ago	49.7MB
coreos	8-jre	3639174793ba	16 months ago	463MB
k8s.gcr.io/coredns	1.3.1	e0516548c180	20 months ago	40.3MB
k8s.gcr.io/kubernetes-dashboard-amd64	v1.10.1	f9aed6605b81	21 months ago	12.2MB
k8s.gcr.io/etcfd	3.3.10	2c4adeb2104f	21 months ago	258MB
k8s.gcr.io/pause	3.1	da86e6b6a6cal	2 years ago	742kB

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19041.508]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1>docker login -u konduruvijaykumar
Password:
Login Succeeded

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1>
```

```
C:\Windows\System32\cmd.exe
docker/desktop-storage-provisioner          v1.0           605ae7683b7b   6 months ago   33.1MB
docker/desktop-vpnkit-controller            v1.0           79da37e5a3aa   6 months ago   36.6MB
docker/desktop-kubernetes                  kubernetes-v1.16.5-cni-v0.7.5-critools-v1.15.0  a86647f0b376   7 months ago   279MB
k8s.gcr.io/kube-controller-manager         v1.16.5        441835d2301   8 months ago   151MB
k8s.gcr.io/kube-proxy                      v1.16.5        0ee1b8a3ebe0   8 months ago   82.7MB
k8s.gcr.io/kube-scheduler                 v1.16.5        bdd073a9efda   8 months ago   83.5MB
k8s.gcr.io/kube-apiserver                 v1.16.5        fc838021afbb   8 months ago   159MB
docker/kube-compose-controller             v0.4.25-alpha1 129151cd735f   10 months ago  35.6MB
docker/kube-compose-api-server            v0.4.25-alpha1 989749268895  10 months ago  58.7MB
docker/kube-compose-installer             v0.4.25-alpha1 2a71ac5a1359   10 months ago  42.3MB
k8s.gcr.io/kube-proxy                      v1.15.5        cbd7f21fec99   11 months ago  82.4MB
k8s.gcr.io/kube-apiserver                v1.15.5        e534b1952a0d   11 months ago  287MB
k8s.gcr.io/kube-controller-manager       v1.15.5        1599a72fa1a9   11 months ago  159MB
k8s.gcr.io/kube-scheduler                v1.15.5        fab2ded59dd   11 months ago  81.1MB
k8s.gcr.io/etcd                          3.3.15-0      b2756210eeab   12 months ago  247MB
k8s.gcr.io/coredns                        1.6.2          bf261d157914   13 months ago  44.1MB
docker/kube-compose-controller             v0.4.23        a8c3d87a58e7   15 months ago  35.3MB
docker/kube-compose-api-server            v0.4.23        f3591b2cb223  15 months ago  49.9MB
tomcat                                    8-jre8          3639174793ba   16 months ago  463MB
k8s.gcr.io/coredns                        1.3.1          eb516548c180   20 months ago  48.3MB
k8s.gcr.io/kubernetes-dashboard-amd64    v1.10.1        f9aead6695b81  21 months ago  122MB
k8s.gcr.io/etcd                          3.3.10         2c4adeb21b4f   21 months ago  258MB
k8s.gcr.io/pause                         3.1           da86e6ba6ca1   2 years ago   742kB

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1>docker push konduruvijaykumar/kubernetes-app1:v2.0
The push refers to repository [docker.io/konduruvijaykumar/kubernetes-app1]
edd56f3daa2: Pushed
f24d8b358b8b1: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
c8bcc49b9925: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
f0e1731fd286: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
2b5c38ff3137: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
d38f3d5a39fb: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
fe0061c5c4e: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
7d63f8777ebf: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
1b958b5b3b256: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
2c719774c1e1: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
ec62f19b03aa: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
f94641f1fe1f: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
v2.0: digest: sha256:463a521dd13b8d9b29dd619d7794c7a8edd68ae59739e1e79db9d9d5f2e925 size: 2838

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1>
```

IMAGE
latest
Last updated 2 years ago by konduruvijaykumar

DIGEST
f90e68e533e2

OS/ARCH
linux/amd64

COMPRESSED SIZE
211.26 MB

IMAGE
1.0
Last updated 2 years ago by konduruvijaykumar

DIGEST
4563ef72d60a

OS/ARCH
linux/amd64

COMPRESSED SIZE
211.26 MB

IMAGE
v2.0
Last updated a few seconds ago by konduruvijaykumar

DIGEST
463a521dcfd13

OS/ARCH
linux/amd64

COMPRESSED SIZE
202.07 MB

```
C:\Windows\System32\cmd.exe - mvn install
fe0061c5c4e: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
7d63f8777ebf: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
1b958b53b256: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
2c719774c1e1: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
ec62f19bb3aa: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
f94641f1fe1f: Mounted from konduruvijaykumar/springboot-mvc-studentinfo
v2.0: digest: sha256:463a521dcfd13b8d5b29dd8619d7794c7a8edd68ae59739e1e79db9d9d5f2e925 size: 2838

C:\Users\vijay\git\kubernetes-examples\k8s-example1\kubernetes-app1>cd ..\kubernetes-app2

C:\Users\vijay\git\kubernetes-examples\k8s-example1\kubernetes-app2>mvn install
[INFO] Scanning for projects...
[INFO]
[INFO] -----< org.pjay:kubernetes-app2 >-----
[INFO] Building kubernetes-app2 0.0.1-SNAPSHOT
[INFO] -----[ war ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.1.0:resources (default-resources) @ kubernetes-app2 ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Copying 1 resource
[INFO] Copying 0 resource
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:compile (default-compile) @ kubernetes-app2 ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:3.1.0:testResources (default-testResources) @ kubernetes-app2 ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\vijay\git\kubernetes-examples\k8s-example1\kubernetes-app2\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:testCompile (default-testCompile) @ kubernetes-app2 ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.22.2:test (default-test) @ kubernetes-app2 ---
```

```
C:\Windows\System32\cmd.exe
2020-09-14 03:49:07.296 INFO 3032 --- [           main] o.s.b.a.e.web.EndpointLinksResolver      : Exposing 2 endpoint(s) beneath base path '/actuator'
2020-09-14 03:49:07.573 INFO 3032 --- [           main] o.p.k8s.KubernetesApp2ApplicationTests : Started KubernetesApp2ApplicationTests in 6.603 seconds (JVM running for 9,245)
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-war-plugin:3.2.3:war (default-war) @ kubernetes-app2 ---
[INFO] Packaging webapp
[INFO] Assembling webapp [kubernetes-app2] in [C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\target\app2]
[INFO] Processing war project
[INFO] Copying webapp resources [C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\src\main\webapp]
[INFO] Webapp assembled in [439 msec]
[INFO] Building war: C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\target\app2.war
[INFO]
[INFO] --- spring-boot-maven-plugin:2.2.7.RELEASE:repackage (repackage) @ kubernetes-app2 ---
[INFO] Replacing main artifact with repackaged archive
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ kubernetes-app2 ---
[INFO] Installing C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\target\app2.war to C:\Users\vijayk\.m2\repository\org\pjay\kubernetes-app2\0.0.1-SNAPSHOT\kubernetes-app2-0.0.1-SNAPSHOT.war
[INFO] Installing C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\pom.xml to C:\Users\vijayk\.m2\repository\org\pjay\kubernetes-app2\0.0.1-SNAPSHOT\kubernetes-app2-0.0.1-SNAPSHOT.pom
[INFO] -----
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 17.567 s
[INFO] Finished at: 2020-09-14T03:49:12+05:30
[INFO] -----
```

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>

```
C:\Windows\System32\cmd.exe
[INFO]
[INFO] --- spring-boot-maven-plugin:2.2.7.RELEASE:repackage (repackage) @ kubernetes-app2 ---
[INFO] Replacing main artifact with repackaged archive
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ kubernetes-app2 ---
[INFO] Installing C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\target\app2.war to C:\Users\vijayk\.m2\repository\org\pjay\kubernetes-app2\0.0.1-SNAPSHOT\kubernetes-app2-0.0.1-SNAPSHOT.war
[INFO] Installing C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\pom.xml to C:\Users\vijayk\.m2\repository\org\pjay\kubernetes-app2\0.0.1-SNAPSHOT\kubernetes-app2-0.0.1-SNAPSHOT.pom
[INFO] -----
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 17.567 s
[INFO] Finished at: 2020-09-14T03:49:12+05:30
[INFO] -----
```

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>docker build -t konduruvijaykumar/kubernetes-app2:v2.0 .
Sending build context to Docker daemon 96.69MB
Step 1/2 : FROM tomcat:8-jre8
--> 3639174793ba
Step 2/2 : ADD ./target/app2.war /usr/local/tomcat/webapps/
--> e74bda633306
Successfully built e74bda633306
Successfully tagged konduruvijaykumar/kubernetes-app2:v2.0
SECURITY WARNING: You are building a Docker image from Windows against a non-Windows Docker host. All files and directories added to build context will have '-rwxr-xr-x' permissions. It is recommended to double check and reset permissions for sensitive files and directories.

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>

```

C:\Windows\System32\cmd.exe
docker/desktop-storage-provisioner          v1.0           605a0f683b7b   6 months ago   33.1MB
docker/desktop-vpnkit-controller            v1.0           79da37e5a3aa   6 months ago   36.6MB
docker/desktop-kubernetes                  v1.16.5        a86647f0b376   7 months ago   279MB
k8s.gcr.io/kube-proxy                      v1.16.5        0ee1b8a3eb00   8 months ago   82.7MB
k8s.gcr.io/kube-scheduler                 v1.16.5        b4d073a9efda   8 months ago   83.5MB
k8s.gcr.io/kube-apiserver                 v1.16.5        fc838021a7fb   8 months ago   159MB
k8s.gcr.io/kube-controller-manager         v1.16.5        441835dd2301   8 months ago   151MB
docker/kube-compose-controller             v0.4.25-alpha1 129151cf35f    10 months ago  35.6MB
docker/kube-compose-api-server            v0.4.25-alpha1 989749268895   10 months ago  58.7MB
docker/kube-compose-installer             v0.4.25-alpha1 2a71ac5a1359   10 months ago  42.3MB
k8s.gcr.io/kube-controller-manager         v1.15.5        1399a72fala9   11 months ago  159MB
k8s.gcr.io/kube-apiserver                v1.15.5        e534b1952a0d   11 months ago  287MB
k8s.gcr.io/kube-proxy                     v1.15.5        cbdf721fec99   11 months ago  82.4MB
k8s.gcr.io/kube-scheduler                v1.15.5        fab2dded59dd   11 months ago  81.1MB
k8s.gcr.io/etcfd                         3.3.15-0      b2756210eab   12 months ago  247MB
k8s.gcr.io/coredns                       1.6.2          bf261d157914   13 months ago  44.1MB
docker/kube-compose-controller             v0.4.23       a8c3d7a58e7   15 months ago  35.3MB
docker/kube-compose-api-server            v0.4.23       f3591b2cb223  15 months ago  49.9MB
tomcat                                    8-jre8          3639174793ba   16 months ago  463MB
k8s.gcr.io/coredns                       1.3.1          eb516548c180   20 months ago  48.3MB
k8s.gcr.io/kubernetes-dashboard-amd64   v1.10.1        f9a9ed6695081  21 months ago  122MB
k8s.gcr.io/etcfd                         3.3.18         2c4adeb21b4f   21 months ago  258MB
k8s.gcr.io/pause                          3.1           da86e6ba6ca1   2 years ago   742kB

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>docker push konduruvijaykumar/kubernetes-app2:v2.0
The push refers to repository [docker.io/konduruvijaykumar/kubernetes-app2]
b9edf1fbf818: Pushed

f24d4b358bb01: Mounted from konduruvijaykumar/kubernetes-app1
c8bc49b9925: Mounted from konduruvijaykumar/kubernetes-app1
f08c731fd286: Mounted from konduruvijaykumar/kubernetes-app1
2b6c38ff3137: Mounted from konduruvijaykumar/kubernetes-app1
d38f3d5a39fb: Mounted from konduruvijaykumar/kubernetes-app1
fe80061c5c4e: Mounted from konduruvijaykumar/kubernetes-app1
7d3f8777ebf: Mounted from konduruvijaykumar/kubernetes-app1
1b958b53b256: Mounted from konduruvijaykumar/kubernetes-app1
2c719774c1e1: Mounted from konduruvijaykumar/kubernetes-app1
ec62f19bb3aa: Mounted from konduruvijaykumar/kubernetes-app1
f94641f1fe1f: Mounted from konduruvijaykumar/kubernetes-app1
v2.0: digest: sha256:a7962a0492dec7e96be3365f61317936bcd61844543ded32fb838d00de896af7 size: 2838

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>

```

```

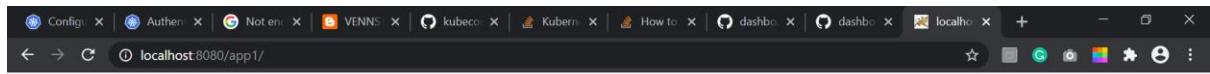
C:\Windows\System32\cmd.exe - docker run -p 8080:8080 konduruvijaykumar/kubernetes-app1:v2.0
7d5f8777ebf: Mounted from konduruvijaykumar/kubernetes-app1
1b958b53b256: Mounted from konduruvijaykumar/kubernetes-app1
2c719774c1e1: Mounted from konduruvijaykumar/kubernetes-app1
ec62f19bb3aa: Mounted from konduruvijaykumar/kubernetes-app1
f94641f1fe1f: Mounted from konduruvijaykumar/kubernetes-app1
v2.0: digest: sha256:a7962a0492dec7e96be3365f61317936bcd61844543ded32fb838d00de896af7 size: 2838

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>docker run -p 8080:8080 konduruvijaykumar/kubernetes-app1:v2.0
13-Sep-2020 22:25:17.168 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server version: Apache Tomcat/8.5.41
13-Sep-2020 22:25:17.179 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server built: May 4 2019 09:17:16 UTC
13-Sep-2020 22:25:17.180 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server number: 8.5.41.0
13-Sep-2020 22:25:17.181 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log OS Name: Linux
13-Sep-2020 22:25:17.182 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log OS Version: 4.19.76-linuxkit
13-Sep-2020 22:25:17.183 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Architecture: amd64
13-Sep-2020 22:25:17.184 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Java Home: /usr/lib/jvm/java-8-openjdk-amd64/jre
13-Sep-2020 22:25:17.185 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log JVM Version: 1.8.0_212-8u212-b01-1~deb9u1-b01
13-Sep-2020 22:25:17.186 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log JVM Vendor: Oracle Corporation
13-Sep-2020 22:25:17.187 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log CATALINA_BASE: /usr/local/tomcat
13-Sep-2020 22:25:17.187 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log CATALINA_HOME: /usr/local/tomcat
13-Sep-2020 22:25:17.189 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.util.logging.config_file=/usr/local/tomcat/conf/logging.properties
13-Sep-2020 22:25:17.190 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager
13-Sep-2020 22:25:17.192 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djdk.tls.ephemeralDHKeySize=2048
13-Sep-2020 22:25:17.193 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.protocol.handler.pkgs=org.apache.catalina.webresources
13-Sep-2020 22:25:17.194 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dorg.apache.catalina.security.SecurityListener.UMASK=0027
13-Sep-2020 22:25:17.195 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dignore.endorsed.dirs=
13-Sep-2020 22:25:17.196 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dcatalina.base=/usr/local/tomcat
13-Sep-2020 22:25:17.200 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dcatalina.home=/usr/local/tomcat
13-Sep-2020 22:25:17.202 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.io.tmpdir=/usr/local/tomcat/temp
13-Sep-2020 22:25:17.203 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent Loaded APR based Apache Tomcat Native library [1.2.21] using APR version [1.5.2].
13-Sep-2020 22:25:17.204 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent APR capabilities: IPv6 [true], sendfile [true], accept filters [false], random [true].
13-Sep-2020 22:25:17.207 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent APR/OpenSSL configuration: useAprConnector [false], useOpenSSL [true]
13-Sep-2020 22:25:17.240 INFO [main] org.apache.catalina.core.AprLifecycleListener.initializeSSL OpenSSL successfully initialized [OpenSSL 1.1.0j  20 Nov 2018]
13-Sep-2020 22:25:17.567 INFO [main] org.apache.coyote.AbstractProtocol.init Initializing ProtocolHandler ["http-nio-8080"]
13-Sep-2020 22:25:17.645 INFO [main] org.apache.tomcat.util.net.NioSelectorPool.getSharedSelector Using a shared selector for servlet write/read
13-Sep-2020 22:25:17.681 INFO [main] org.apache.coyote.AbstractProtocol.init Initializing ProtocolHandler ["ajp-nio-8009"]
13-Sep-2020 22:25:17.684 INFO [main] org.apache.tomcat.util.net.NioSelectorPool.getSharedSelector Using a shared selector for servlet write/read

```

```
C:\Windows\System32\cmd.exe - docker run -p 8080:8080 konduruvijaykumar/kubernetes-app1:v2.0
13-Sep-2020 22:25:31.962 WARNING [localhost-startStop-1] org.apache.catalina.util.SessionIdGeneratorBase.createSecureRandom Creation of SecureRandom instance for session ID
generation using [SHA1PRNG] took [110] milliseconds.
13-Sep-2020 22:25:32.009 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployWAR Deployment of web application archive [/usr/local/tomcat/webapps/app1
.war] has finished in [14,196] ms
13-Sep-2020 22:25:32.012 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [/usr/local/tomcat/webapps/
docs]
13-Sep-2020 22:25:32.055 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [/usr/local/tomcat/weba
pps/docs] has finished in [42] ms
13-Sep-2020 22:25:32.058 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [/usr/local/tomcat/webapps/
ROOT]
13-Sep-2020 22:25:32.154 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [/usr/local/tomcat/weba
pps/ROOT] has finished in [96] ms
13-Sep-2020 22:25:32.158 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [/usr/local/tomcat/webapps/
examples]
13-Sep-2020 22:25:33.756 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [/usr/local/tomcat/weba
pps/examples] has finished in [1,597] ms
13-Sep-2020 22:25:33.757 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [/usr/local/tomcat/webapps/
host-manager]
13-Sep-2020 22:25:33.961 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [/usr/local/tomcat/weba
pps/host-manager] has finished in [284] ms
13-Sep-2020 22:25:33.961 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [/usr/local/tomcat/weba
pplications/host-manager]
13-Sep-2020 22:25:34.113 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [/usr/local/tomcat/weba
pps/host-manager] has finished in [152] ms
13-Sep-2020 22:25:34.161 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["http-nio-8088"]
13-Sep-2020 22:25:34.260 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["ajp-nio-8009"]
13-Sep-2020 22:25:34.344 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in 16656 ms
```

Screenshot of a web browser showing the Apache Tomcat 8.5.41 homepage at localhost:8080. The page displays a success message: "If you're seeing this, you've successfully installed Tomcat. Congratulations!". It features a cartoon cat icon and links to recommended reading and various documentation sections like "Developer Quick Start", "Managing Tomcat", "Documentation", and "Getting Help". The Apache Software Foundation logo is visible in the top right.



```
Select C:\Windows\System32\cmd.exe
8f95d44f8c-jcsbw_docker_3117f49d-24ef-450f-b424-2f27455e3695_0
9b2763094c12          k8s.gcr.io/pause:3.1                  "/pause"           8 hours ago      Up 8 hours
11er_kube-system_99b1e957-316a-4def-844e-76fc63a0e623_0
c963ac60f3a4          0ee1b8a3eb0                         "/usr/local/bin/kube.."   8 hours ago      Up 8 hours
roxy-hf2k_kube-system_3f036d1d-f4d1-4a9b-b0ed-6943bd388648_0
2a15cf8561e0          k8s.gcr.io/pause:3.1                  "/pause"           8 hours ago      Up 8 hours
d4f8c-jcsbw_docker_3117f49d-24ef-450f-b424-2f27455e3695_0
8314570a1bec          k8s.gcr.io/pause:3.1                  "/pause"           8 hours ago      Up 8 hours
f21_kube-system_3f036d1d-f4d1-4a9b-b0ed-6943bd388648_0
3e3fbba3b8b4          b4d073a9efda                         "kube-scheduler --au.." 8 hours ago      Up 8 hours
be-scheduler-docker-desktop_kube-system_28dd1b1230fbe15350eb1b896ae9493d_0
0b590d0e862aa          b2756210eab                         "etcd --advertise-cl.." 8 hours ago      Up 8 hours
desktop_kube-system_bc3eca0122540ccc59e959a7805e87e8_0
74b25e132668          fc838b21afdb                         "kube-apiserver --ad.." 8 hours ago      Up 8 hours
be-apiserver-docker-desktop_kube-system_2966bdea771ead42b079889c75cf17e_0
ca2f4bf2817          441835dd23b1                         "kube-controller-man.." 8 hours ago      Up 8 hours
anager_kube-controller-manager-docker-desktop_kube-system_9076958db0c2c26f76def745bf1928_0
54a90753b0e0          k8s.gcr.io/pause:3.1                  "/pause"           8 hours ago      Up 8 hours
r-docker-desktop_kube-system_28dd1b1230fbe15350eb1b896ae9493d_0
6afffc1967bd          k8s.gcr.io/pause:3.1                  "/pause"           8 hours ago      Up 8 hours
r-docker-desktop_kube-system_2966bdea771ead42b079889c75cf17e_0
3ae7d522f25          k8s.gcr.io/pause:3.1                  "/pause"           8 hours ago      Up 8 hours
er-manager-docker-desktop_kube-system_9076958db0c2c26f76def745bf1928_0
9166866e1a20          k8s.gcr.io/pause:3.1                  "/pause"           8 hours ago      Up 8 hours
esktop_kube-system_bc3eca0122540ccc59e959a7805e87e8_0

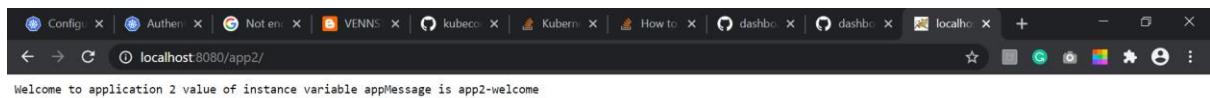
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>docker stop 275417d58f10
275417d58f10

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS               NAMES
bf96ea046d10        kubernetesui/dashboard   "/dashboard --insecu.."   49 minutes ago    Up 49 minutes       k8s_kubernetes-dashboard_ku
bernetes-dashboard-56484d4c5-z2q5c_kubernetes-dashboard_746f8eb7-a88c-4010-b2c8-b69a3e8d3666_0
bbdd93e1b7f4        86262685d9ab           "/metrics-sidecar"     49 minutes ago    Up 49 minutes       k8s_dashboard-metrics-scrap
er_dashboard-metrics-scraper-c79c65bb7-d88ww_kubernetes-dashboard_2fbf5ad3-ab62-4488-8d74-2ff25d171496_0
a5e2a763a4b1        k8s.gcr.io/pause:3.1      "/pause"            49 minutes ago    Up 49 minutes       k8s POD_dashboard-metrics-s
scraper-c79c65bb7-d88ww_kubernetes-dashboard_2fbf5ad3-ab62-4488-8d74-2ff25d171496_0
651c4fb88e3        k8s.gcr.io/pause:3.1      "/pause"            49 minutes ago    Up 49 minutes       k8s POD_kubernetes_dashboard
d-56484d4c5-z2q5c_kubernetes-dashboard_746f8eb7-a88c-4010-b2c8-b69a3e8d3666_0
03fd1e252ed         k8s.gcr.io/kubernetes-dashboard-amd64   "/dashboard --insecu.."  2 hours ago       Up 2 hours          k8s_kubernetes-dashboard_ku
bernetes-dashboard-7c54d59f66-gjk4d_kube-system_04fccdab-836b-4e4d-95ce-2b0c3baf546b_0
```

```
Select C:\Windows\System32\cmd.exe - docker run -p 8080:8080 konduruvijaykumar/kubernetes-app2:v2.0
3e3fbba3b84        b4d073a9efda          "kube-scheduler --au..."   8 hours ago      Up 8 hours           k8s_kube-scheduler_kube-sch
ed11er-docker~desktop_kube-system_28dd1b1230fbeb15350eb1b896ae9493d_0
0b90e0862aa        b2756210eab          "etcd --advertise-cl..." 8 hours ago      Up 8 hours           k8s_etcd_etcd-docker-deskt
p_kube-system_bc3eca@12540cc59e959a7805e87e8_0
74b25e132668       fc638b21afbb          "kube-apiserver --ad..." 8 hours ago      Up 8 hours           k8s_kube-apiserver_kube-api
server-docker~desktop_kube-system_2966bdea771eadc42b079889c75cf17e_0
ca2f4bff2817       441835d2381          "kube-controller-man..." 8 hours ago      Up 8 hours           k8s_kube-controller-manager
_kube-controller-manager-docker~desktop_kube-system_9076958db0c2cc26f76def745bfc1928_0
54a99b753b0e0       k8s_gcr.io/pause:3.1    "/pause"            8 hours ago      Up 8 hours           k8s_POD_kube-scheduler-dock
er~desktop_kube-system_28dd1b1230fbfa535eb1b896ae9493d_0
6afffc1967bd       k8s_gcr.io/pause:3.1    "/pause"            8 hours ago      Up 8 hours           k8s_POD_kube-apiserver-dock
er~desktop_kube-system_2966bdea771eadc42b079889c75cf17e_0
3ae7d2522f25       k8s_gcr.io/pause:3.1    "/pause"            8 hours ago      Up 8 hours           k8s_POD_kube-controller-man
ager-docker~desktop_kube-system_9076958db0c2cc26f76def745bfc1928_0
9166866e1a20       k8s_gcr.io/pause:3.1    "/pause"            8 hours ago      Up 8 hours           k8s_POD_etcd-docker~desktop
_kube-system_bc3eca@12540cc59e959a7805e87e8_0

C:\Users\vijay\git\kubernetes-examples\k8s-example1\kubernetes-app2>docker run -p 8080:8080 konduruvijaykumar/kubernetes-app2:v2.6
13-Sep-2020 22:30:00.582 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server version: Apache Tomcat/8.5.41
13-Sep-2020 22:30:00.584 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server built: May 4 2019 09:17:16 UTC
13-Sep-2020 22:30:00.586 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server number: 8.5.41.0
13-Sep-2020 22:30:00.587 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log OS Name: Linux
13-Sep-2020 22:30:00.587 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log OS Version: 4.19.76-linuxkit
13-Sep-2020 22:30:00.588 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Architecture: amd64
13-Sep-2020 22:30:00.589 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Java Home: /usr/lib/jvm/java-8-openjdk-amd64/jre
13-Sep-2020 22:30:00.590 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log JVM Version: 1.8.0_212-8u212-b01-1~deb9u1-b01
13-Sep-2020 22:30:00.591 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log JVM Vendor: Oracle Corporation
13-Sep-2020 22:30:00.591 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log CATALINA_BASE: /usr/local/tomcat
13-Sep-2020 22:30:00.592 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log CATALINA_HOME: /usr/local/tomcat
13-Sep-2020 22:30:00.593 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.util.logging.config.file=/usr/local/tomcat/conf/logging.properties
13-Sep-2020 22:30:00.594 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager
13-Sep-2020 22:30:00.595 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djdk.tls.ephemeralDHKeySize=2048
13-Sep-2020 22:30:00.595 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.protocol.handler.pkgs=org.apache.catalina.webresources
13-Sep-2020 22:30:00.596 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dorg.apache.catalina.security.SecurityListener.UMASK=0027
13-Sep-2020 22:30:00.596 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dignore.endorsed.dirs=
13-Sep-2020 22:30:00.597 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dcatalina.base=/usr/local/tomcat
13-Sep-2020 22:30:00.597 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dcatalina.home=/usr/local/tomcat
13-Sep-2020 22:30:00.599 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.io.tmpdir=/usr/local/tomcat/temp
```

```
C:\Windows\System32\cmd.exe - docker run -p 8080:8080 konduruvijaykumar/kubernetes-app2:v2.0
13-Sep-2020 22:30:07.637 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [/usr/local/tomcat/webapps/ROOT]
13-Sep-2020 22:30:07.654 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [/usr/local/tomcat/webapps/ROOT] has finished in [17] ms
13-Sep-2020 22:30:07.655 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [/usr/local/tomcat/webapps/examples]
13-Sep-2020 22:30:07.859 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [/usr/local/tomcat/webapps/examples] has finished in [284] ms
13-Sep-2020 22:30:07.859 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [/usr/local/tomcat/webapps/host-manager]
13-Sep-2020 22:30:07.889 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [/usr/local/tomcat/webapps/host-manager] has finished in [30] ms
13-Sep-2020 22:30:07.890 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [/usr/local/tomcat/webapps/manager]
13-Sep-2020 22:30:07.930 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [/usr/local/tomcat/webapps/manager] has finished in [40] ms
13-Sep-2020 22:30:07.949 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["http-nio-8080"]
13-Sep-2020 22:30:07.969 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["ajp-nio-8009"]
13-Sep-2020 22:30:07.975 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in 7178 ms
```



Kubernetes Work

```
C:\Windows\System32\cmd.exe
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>kubectl get nodes
NAME      STATUS    ROLES   AGE     VERSION
docker-desktop   Ready    master   119d    v1.16.6-beta.0

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>kubectl get services
NAME        TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)   AGE
kubernetes   ClusterIP   10.96.0.1   <none>        443/TCP   119d

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>kubectl get pods
No resources found in default namespace.

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>kubectl get deployments
No resources found in default namespace.

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>
```

```
C:\Windows\System32\cmd.exe
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>cd ..\kubernetes-app1
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1>cd kubernetes-files
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>dir
Volume in drive C has no label.
Volume Serial Number is A863-B472

Directory of C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files

14-09-2020 04:10 <DIR> .
14-09-2020 04:10 <DIR> ..
14-09-2020 04:11 1,063 kubernetes-app1-deployment.yaml
17-02-2019 18:26 647 kubernetes-app1-service.yaml
2 File(s) 1,718 bytes
2 Dir(s) 46,107,947,008 bytes free

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>kubectl apply -f kubernetes-app1-service.yaml
service/app1 created

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>kubectl apply -f kubernetes-app1-deployment.yaml
deployment.apps/kubernetes-app1-deployment created

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>cd ../kubernetes-app2\kubernetes-files
The system cannot find the path specified.

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>cd ../../kubernetes-app2\kubernetes-files
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl apply -f kubernetes-app2-service.yaml
service/app2 created

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl apply -f kubernetes-app2-deployment.yaml
deployment.apps/kubernetes-app2-deployment created

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl expose deployment kubernetes-app1-deployment --type=NodePort
service/kubernetes-app1-deployment exposed

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>
```

```
Select C:\Windows\System32\cmd.exe
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>kubectl apply -f kubernetes-app1-deployment.yaml
deployment.apps/kubernetes-app1-deployment created

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>cd ../kubernetes-app2\kubernetes-files
The system cannot find the path specified.

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>cd ../../kubernetes-app2\kubernetes-files
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl apply -f kubernetes-app2-service.yaml
service/app2 created

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl apply -f kubernetes-app2-deployment.yaml
deployment.apps/kubernetes-app2-deployment created

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl expose deployment kubernetes-app1-deployment --type=NodePort
service/kubernetes-app1-deployment exposed

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl get services
NAME           TYPE      CLUSTER-IP   EXTERNAL-IP   PORT(S)        AGE
kubernetes     ClusterIP  10.96.0.1    <none>        443/TCP       119d
kubernetes-app1-deployment  NodePort   10.102.207.194 <none>        8080:32047/TCP  56s
service-app1   ClusterIP  10.111.209.145 <none>        80/TCP        3m36s
service-app2   ClusterIP  10.105.216.127 <none>        80/TCP        2m23s

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
kubernetes-app1-deployment-5984bb9578-pppx9  1/1    Running   0          4m9s
kubernetes-app1-deployment-5984bb9578-wd1pz  1/1    Running   0          4m9s
kubernetes-app2-deployment-74cddbdc8-dmfjjj  1/1    Running   0          2m57s
kubernetes-app2-deployment-74cddbdc8-gn68n  1/1    Running   0          2m58s

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl get deployments
NAME          READY   UP-TO-DATE   AVAILABLE   AGE
kubernetes-app1-deployment  2/2    2           2           4m35s
kubernetes-app2-deployment  2/2    2           2           3m24s

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>
```



```
Select C:\Windows\System32\cmd.exe
service-app2           ClusterIP  10.105.216.127 <none>          80/TCP          2m23s
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl get pods
NAME                  READY   STATUS    RESTARTS   AGE
kubernetes-app1-deployment-5984bb9578-pppx9  1/1     Running   0          4m9s
kubernetes-app1-deployment-5984bb9578-wdlpz  1/1     Running   0          4m9s
kubernetes-app2-deployment-74dddbc8d-dmfjj  1/1     Running   0          2m57s
kubernetes-app2-deployment-74dddbc8d-grn68n  1/1     Running   0          2m58s
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl get deployments
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
kubernetes-app1-deployment  2/2     2           2           4m35s
kubernetes-app2-deployment  2/2     2           2           3m24s
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl exec kubernetes-app1-deployment -- printenv
Error from server (NotFound): pods "kubernetes-app1-deployment" not found
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl exec kubernetes-app1-deployment-5984bb9578-pppx9 -- printenv
PATH=/usr/local/tomcat/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/bin
HOSTNAME=kubernetes-app1-deployment-5984bb9578-pppx9
KUBERNETES_PORT_443_TCP_PROTO=tcp
SERVICE_APP1_PORT_80_TCP_PORT=80
KUBERNETES_SERVICE_PORT=443
KUBERNETES_PORT=tcp://10.96.0.1:443
KUBERNETES_PORT_443_TCP_PORT=443
SERVICE_APP1_SERVICE_HOST=10.111.209.145
SERVICE_APP1_PORT_80_TCP=tcp://10.111.209.145:80
SERVICE_APP1_PORT_80_TCP_ADDR=10.111.209.145
SERVICE_APP1_PORT=tcp://10.111.209.145:80
KUBERNETES_SERVICE_PORT_HTTPS=443
KUBERNETES_PORT_443_TCP_ADDR=10.96.0.1
KUBERNETES_PORT_443_TCP=tcp://10.96.0.1:443
SERVICE_APP1_SERVICE_PORT=80
SERVICE_APP1_PORT_80_TCP_PROTO=tcp
KUBERNETES_SERVICE_HOST=10.96.0.1
LANG=C.UTF-8
JAVA_HOME=/docker-java-home/jre
JAVA_VERSION=8u212
JAVA_DEBIAN_VERSION=8u212-b01-1~deb9u1
CATALINA_HOME=/usr/local/tomcat
TOMCAT_NATIVE_LIBDIR=/usr/local/tomcat/native-jni-lib
```

```
vijayk@DESKTOP-0H5LGQQ MINGW64 ~\git\kubernetes-examples (master)
$ kubectl exec kubernetes-app1-deployment-5984bb9578-pppx9 -- printenv | grep SERVICE
SERVICE_APP1_PORT_80_TCP_PORT=80
KUBERNETES_SERVICE_PORT=443
SERVICE_APP1_SERVICE_HOST=10.111.209.145
SERVICE_APP1_PORT_80_TCP=tcp://10.111.209.145:80
SERVICE_APP1_PORT_80_TCP_ADDR=10.111.209.145
SERVICE_APP1_PORT=tcp://10.111.209.145:80
KUBERNETES_SERVICE_PORT_HTTPS=443
SERVICE_APP1_SERVICE_PORT=80
SERVICE_APP1_PORT_80_TCP_PROTO=tcp
KUBERNETES_SERVICE_HOST=10.96.0.1

vijayk@DESKTOP-0H5LGQQ MINGW64 ~\git\kubernetes-examples (master)
$
```

```
vijayk@DESKTOP-0H5LGQQ MINGW64 ~\git\kubernetes-examples (master)
$ kubectl exec kubernetes-app1-deployment-5984bb9578-pppx9 -- printenv | grep SERVICE
SERVICE_APP1_PORT_80_TCP_PORT=80
KUBERNETES_SERVICE_PORT=443
SERVICE_APP1_SERVICE_HOST=10.111.209.145
SERVICE_APP1_PORT_80_TCP=tcp://10.111.209.145:80
SERVICE_APP1_PORT_80_TCP_ADDR=10.111.209.145
SERVICE_APP1_PORT=tcp://10.111.209.145:80
KUBERNETES_SERVICE_PORT_HTTPS=443
SERVICE_APP1_SERVICE_PORT=80
SERVICE_APP1_PORT_80_TCP_PROTO=tcp
KUBERNETES_SERVICE_HOST=10.96.0.1

vijayk@DESKTOP-0H5LGQQ MINGW64 ~\git\kubernetes-examples (master)
$
```

Overview

Cluster

- Cluster Roles
- Namespaces
- Nodes
- Persistent Volumes
- Storage Classes

Namespace

default

Overview

Workloads

- Cron Jobs
- Daemon Sets
- Deployments
- Jobs
- Pods
- Replica Sets
- Replication Controllers

Workload Status

Deployments Pods Replica Sets

Deployments

Name	Namespace	Labels	Pods	Created	Images
kubernetes-app1-deployment	default	-	2 / 2	24 minutes ago	konduruvijaykumar/kubernetes-app1:v2.0
kubernetes-app2-deployment	default	-	2 / 2	22 minutes ago	konduruvijaykumar/kubernetes-app2:v2.0

1 - 2 of 2 | < < > >|

Discovery and Load Balancing > Services

Deployments

- Jobs
- Pods
- Replica Sets
- Replication Controllers
- Stateful Sets

Discovery and Load Balancing

- Ingresses
- Services

Config and Storage

- Config Maps
- Persistent Volume Claims
- Secrets

Custom Resource Definitions

Settings

About

Services

Name	Namespace	Labels	Cluster IP	Internal Endpoints	External Endpoints	Created
kubernetes	default	component: apiserver provider: kubernetes	10.96.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	3 months ago
kubernetes-app1-deployment	default	-	10.102.207.194	kubernetes-app deployment:80 TCP kubernetes-app deployment:32 TCP	-	22 minutes ago
service-app1	default	-	10.111.209.145	service-app1:80 TCP service-app1:0 TCP	-	24 minutes ago
service-app2	default	-	10.105.216.127	service-app2:80 TCP service-app2:0 TCP	-	23 minutes ago

1 - 4 of 4 | < < > >|

Kubernetes Dashboard - localhost:8001/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard/proxy/#/service?namespace=default

Discovery and Load Balancing > Services

Deployment	Name	Namespace	Labels	Cluster IP	Internal Endpoints	External Endpoints	Created
Jobs	kubernetes	default	component: apiserver provider: kubernetes	10.96.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	3 months ago
Pods	kubernetes-app1-deployment	default	-	10.102.207.194	kubernetes-app deployment:80 TCP kubernetes-app deployment:32 TCP	-	23 minutes ago
Replica Sets	service-app1	default	-	10.111.209.145	service-app1:80 TCP service-app1:0 TCP	-	26 minutes ago
Stateful Sets	service-app2	default	-	10.105.216.127	service-app2:80 TCP service-app2:0 TCP	-	24 minutes ago

1 - 4 of 4 | < < > >|

Kubernetes Dashboard - localhost:8001/api/v1/namespaces/kubernetes-dashboard/services/service-app1

Discovery and Load Balancing > Services > service-app1

Deployment	Metadata			
Jobs	Name	service-app1	Namespace	default
Pods	Created	Sep 14, 2020	Age	31 minutes ago
Replica Sets	UID	ba8c370e-c44e-471d-a6cc-922ccdae096		
Replication Controllers	Annotations	kubectl.kubernetes.io/last-applied-configuration		
Stateful Sets				

Discovery and Load Balancing

Ingresses	Resource information			
Services	Type	ClusterIP	10.111.209.145	Session Affinity
Config and Storage	Selector	app: kubernetes-app1 tier: backend-api-kubernetes-app1		
Config Maps				
Persistent Volume Claims				
Secrets				

Custom Resource Definitions

Settings	Endpoints			
About	Host	Ports (Name, Port, Protocol)	Node	Ready

kubernetes

Search

Discovery and Load Balancing > Services > service-app1

Endpoints				
Host	Ports (Name, Port, Protocol)	Node	Ready	
10.1.0.55	<unset>,8080,TCP	docker-desktop	true	
10.1.0.56	<unset>,8080,TCP	docker-desktop	true	

Pods							
Name	Namespace	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)
kubernetes-app1-deployment-5984bb9578-pppx9	default	app: kubernetes-app1 pod-template-hash: 5984bb9578	docker-desktop	Running	0	-	32 minutes ago
kubernetes-app1-deployment-5984bb9578-wdlpz	default	app: kubernetes-app1 pod-template-hash: 5984bb9578	docker-desktop	Running	0	-	32 minutes ago

1 - 2 of 2 | < < > >|

kubernetes

Search

Discovery and Load Balancing > Services > service-app2

Metadata				
Name	Namespace	Created	Age	
service-app2	default	Sep 14, 2020	31 minutes ago	

UID
0901f22f-b139-4ea1-bc8b-8e803de63abf

Annotations
kubectl.kubernetes.io/last-applied-configuration

Resource information			
Type	Cluster IP	Session Affinity	
ClusterIP	10.105.216.127	None	

Selector
app: kubernetes-app2 tier: backend-api-kubernetes-app2

Endpoints				
Host	Ports (Name, Port, Protocol)	Node	Ready	

kubernetes

Search

Discovery and Load Balancing > Services > service-app2

Endpoints				
Host	Ports (Name, Port, Protocol)	Node	Ready	
10.1.0.57	<unset>,8080,TCP	docker-desktop	true	
10.1.0.58	<unset>,8080,TCP	docker-desktop	true	

Pods							
Name	Namespace	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)
kubernetes-app2-deployment-74dcdbcd8-dmfij	default	app: kubernetes-app2 pod-template-hash: 74dcdbcd8	docker-desktop	Running	0	-	32 minutes ago
kubernetes-app2-deployment-74dcdbcd8-gn68n	default	app: kubernetes-app2 pod-template-hash: 74dcdbcd8	docker-desktop	Running	0	-	32 minutes ago

1 - 2 of 2 | < < > >|

kubernetes

Search

Discovery and Load Balancing > Services > kubernetes-app1-deployment

Metadata				
Name	Namespace	Created	Age	
kubernetes-app1-deployment	default	Sep. 14, 2020	30 minutes ago	
UID	7cf38919-998d-48bc-9365-3b25c09268eb			

Resource information			
Type	Cluster IP	Session Affinity	
NodePort	10.102.207.194	None	
Selector	app: kubernetes-app1 tier: backend-api-kubernetes-app1 Show all		

Endpoints				
Host	Ports (Name, Port, Protocol)	Node	Ready	
10.1.0.55	<unset>,8080,TCP	docker-desktop	true	
10.1.0.56	<unset>,8080,TCP	docker-desktop	true	

```

MINGW64:/c/Users/vijayk/git/kubernetes-examples
$ pod "kubernetes-app1-deployment-5984bb9578-25zx5" deleted
$ pod "kubernetes-app1-deployment-5984bb9578-xkdg5" deleted
$ pod "kubernetes-app2-deployment-74dcdbbcd8-gcjr9" deleted
$ pod "kubernetes-app2-deployment-74dcdbbcd8-skq7r" deleted
$ vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples (master)
$ kubectl delete pods --all
$ pod "kubernetes-app1-deployment-5984bb9578-5hdmg" deleted
$ pod "kubernetes-app1-deployment-5984bb9578-hasm6" deleted
$ pod "kubernetes-app2-deployment-74dcdbbcd8-2x4x7" deleted
$ pod "kubernetes-app2-deployment-74dcdbbcd8-r4ffv" deleted
$ vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples (master)
$ kubectl get services
NAME          TYPE      CLUSTER-IP    EXTERNAL-IP   PORT(S)    AGE
kubernetes    ClusterIP 10.96.0.1   <none>        443/TCP    3m27s
service-app1   ClusterIP 10.105.81.165 <none>        80/TCP     2m46s
$ vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples (master)
$ kubectl get services
NAME          TYPE      CLUSTER-IP    EXTERNAL-IP   PORT(S)    AGE
kubernetes    ClusterIP 10.96.0.1   <none>        443/TCP    3m53s
service-app1   ClusterIP 10.105.81.165 <none>        80/TCP     3m12s
$ vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples (master)
$ kubectl delete pods --all
$ pod "kubernetes-app1-deployment-5984bb9578-5w7nw" deleted
$ pod "kubernetes-app1-deployment-5984bb9578-1vp2d" deleted
$ pod "kubernetes-app2-deployment-74dcdbbcd8-7rvr" deleted
$ pod "kubernetes-app2-deployment-74dcdbbcd8-jkk5m" deleted
$ vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples (master)
$ kubectl get services
NAME          TYPE      CLUSTER-IP    EXTERNAL-IP   PORT(S)    AGE
kubernetes    ClusterIP 10.96.0.1   <none>        443/TCP    7m45s
kubernetes-app1-deployment NodePort 10.108.76.107 <none>        8080:31550/TCP 77s
service-app1   ClusterIP 10.105.81.165 <none>        80/TCP     6m23s
service-app2   ClusterIP 10.98.117.204 <none>        80/TCP     2m17s
$ vijayk@DESKTOP-OMSLGCQ MINGW64 ~/git/kubernetes-examples (master)
$ |
```

The screenshot shows the Apache Tomcat 8.5.41 dashboard. At the top, there's a navigation bar with links to Home, Documentation, Configuration, Examples, Wiki, and Mailing Lists. On the right, there are buttons for Find Help, Server Status, Manager App, and Host Manager. The main content area features a green banner with the text: "If you're seeing this, you've successfully installed Tomcat. Congratulations!". Below this, there's a cartoon cat icon and a section titled "Recommended Reading" with links to Security Considerations HOW-TO, Manager Application HOW-TO, and Clustering/Session Replication HOW-TO. The "Developer Quick Start" section includes links to Tomcat Setup, First Web Application, Realms & AAA, JDBC DataSources, Examples, Servlet Specifications, and Tomcat Versions. The "Documentation" section has links to Tomcat 8.5 Documentation, Tomcat 8.5 Configuration, and Tomcat Wiki. The "Getting Help" section includes a link to FAQ and Mailing Lists, and information about available mailing lists: tomcat-announce (important announcements, releases, security vulnerability notifications, low volume), tomcat-users (user support and discussion), and tomcat-servlet (Servlet API related discussions).



Name	Namespace	Labels	Cluster IP	Internal Endpoints	External Endpoints	Created
kubernetes	default	component: apiserver provider: kubernetes	10.96.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	11 minutes ago
kubernetes-app1-deployment	default	-	10.108.76.107	kubernetes-app deployment:80! TCP kubernetes-app deployment:31! TCP	-	5 minutes ago
service-app1	default	-	10.105.81.165	service-app1:80 TCP - service-app1:0 TCP	-	10 minutes ago
service-app2	default	-	10.98.117.204	service-app2:80 TCP - service-app2:0 TCP	-	6 minutes ago



Points to the service cluster IP instead of specific pod IP



```
C:\Windows\System32\cmd.exe
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>cd ../../kubernetes-app2
The system cannot find the path specified.

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app1\kubernetes-files>cd ../../kubernetes-app2
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2>cd kubernetes-files
C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>ls -l
'ls' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl apply -f kubernetes-app2-service.yaml
service/service-app2 created

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl apply -f kubernetes-app2-deployment.yaml
deployment.apps/kubernetes-app2-deployment unchanged

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl apply -f kubernetes-app2-deployment.yaml
deployment.apps/kubernetes-app2-deployment unchanged

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl expose deployment kubernetes-app1-deployment --type=NodePort
service/kubernetes-app1-deployment exposed

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>kubectl expose deployment kubernetes-app2-deployment --type=NodePort
service/kubernetes-app2-deployment exposed

C:\Users\vijayk\git\kubernetes-examples\k8s-example1\kubernetes-app2\kubernetes-files>
```

Name	Namespace	Labels	Cluster IP	Internal Endpoints	External Endpoints	Created
kubernetes	default	component: apiserver provider: kubernetes	10.96.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	18 minutes ago
kubernetes-app1-deployment	default	-	10.108.76.107	kubernetes-app deployment:80 TCP kubernetes-app deployment:31 TCP	-	12 minutes ago
kubernetes-app2-deployment	default	-	10.101.125.135	kubernetes-app deployment:80 TCP kubernetes-app deployment:30 TCP	-	a minute ago
service-app1	default	-	10.105.81.165	service-app1:80 TCP service-app1:0 TCP	-	17 minutes ago
service-app2	default	-	10.98.117.204	service-app2:80 TCP service-app2:0 TCP	-	13 minutes ago

kubernetes

Search

Discovery and Load Balancing > Services > kubernetes-app2-deployment

Metadata					
Name	kubernetes-app2-deployment	Namespace	default	Created	Sep 14, 2020
UID	fede334b-9334-4389-a77a-3a6825723bcd				
Workloads					
Cron Jobs					
Daemon Sets					
Deployments					
Jobs					
Pods					
Replica Sets					
Replication Controllers					
Stateful Sets					
Discovery and Load Balancing					
Ingresses					
Services					
Config and Storage					
Config Maps					
Persistent Volume Claims					
Secrets					
Custom Resource Definitions					

Resource information			
Type	Cluster IP	Session Affinity	
NodePort	10.101.125.139	None	
Selector	app: kubernetes-app2	tier: backend-api-kubernetes-app2	Show all

Endpoints			
Host	Ports (Name, Port, Protocol)	Node	Ready
10.1.0.72	<unset>,8080,TCP	docker-desktop	true
10.1.0.73	<unset>,8080,TCP	docker-desktop	true

```
MINGW64/c/Users/vijay/git/kubernetes-examples
$ git add .
vijayk@DESKTOP-OMSLGQQ MINGW64 ~/git/kubernetes-examples (master)
$ git commit -m "k8s examplel service url changes"
[master f6c599a] k8s examplel service url changes
 2 files changed, 28 insertions(+), 8 deletions(-)
$ git push
Enumerating objects: 32, done.
Counting objects: 100% (32/32), done.
Delta compression using up to 4 threads.
Compressing objects: 100% (13/13), done.
Writing objects: 100% (19/19), 1.71 KiB | 219.00 KiB/s, done.
Total 19 (delta 5), reused 0 (delta 0)
remote: Resolving deltas: 100% (5/5), completed with 4 local objects.
To https://github.com/konduruvijaykumar/kubernetes-examples
  c69e97a..f6c599a master -> master

vijayk@DESKTOP-OMSLGQQ MINGW64 ~/git/kubernetes-examples (master)
$ git push
Everything up-to-date

vijayk@DESKTOP-OMSLGQQ MINGW64 ~/git/kubernetes-examples (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

nothing to commit, working tree clean

vijayk@DESKTOP-OMSLGQQ MINGW64 ~/git/kubernetes-examples (master)
$ kubectl get pods
NAME                               READY   STATUS    RESTARTS   AGE
kubernetes-app1-deployment-5984bb9578-7fnwv   1/1    Running   0          14m
kubernetes-app1-deployment-5984bb9578-vpxg2   1/1    Running   0          14m
kubernetes-app2-deployment-74dcdbbcd8-6vnq1   1/1    Running   0          14m
kubernetes-app2-deployment-74dcdbbcd8-xgn77   1/1    Running   0          14m

vijayk@DESKTOP-OMSLGQQ MINGW64 ~/git/kubernetes-examples (master)
$ kubectl get services
NAME         TYPE      CLUSTER-IP   EXTERNAL-IP   PORT(S)        AGE
kubernetes   ClusterIP  10.96.0.1   <none>       443/TCP       19m
kubernetes-app1-deployment  NodePort   10.108.76.107   <none>       8080:31550/TCP  13m
kubernetes-app2-deployment  NodePort   10.101.125.139   <none>       8080:30904/TCP  2m14s
service-app1   ClusterIP  10.105.81.165   <none>       80/TCP        18m
service-app2   ClusterIP  10.98.117.204   <none>       80/TCP        14m

vijayk@DESKTOP-OMSLGQQ MINGW64 ~/git/kubernetes-examples (master)
$
```

Kubernetes Dashboard | localhost:31550/app1/app1toapp | Apache Tomcat/8.5.41 | localhost:30904

Apache Tomcat/8.5.41

If you're seeing this, you've successfully installed Tomcat. Congratulations!



Recommended Reading:

- [Security Considerations HOW-TO](#)
- [Manager Application HOW-TO](#)
- [Clustering/Session Replication HOW-TO](#)

Developer Quick Start

Tomcat Setup	Realms & AAA	Examples	Servlet Specifications
First Web Application	JDBC DataSources		Tomcat Versions

Managing Tomcat

For security, access to the `manager_webapp` is restricted. Users are defined in:
`$CATALINA_HOME/conf/tomcat-users.xml`

In Tomcat 8.5 access to the manager application is split between different users.
[Read more...](#)

Release Notes

Documentation

- [Tomcat 8.5 Documentation](#)
- [Tomcat 8.5 Configuration](#)
- [Tomcat Wiki](#)

Find additional important configuration information in:
`$CATALINA_HOME/RUNNING.txt`

Getting Help

FAQ and Mailing Lists

The following mailing lists are available:

tomcat-announce Important announcements, releases, security vulnerability notifications. (Low volume.)
tomcat-users User support and discussion
tomcat-user

Kubernetes Dashboard | localhost:31550/app1/app1toapp | localhost:30904/app2/ | localhost:30904/app2/

Welcome to application 2 value of instance variable appMessage is app2-welcome

Postman

File Edit View Help

New Import Runner

My Workspace Invite

GET http://localhost:30904/app2/updateappmessage/app2-changed

PUT http://localhost:30904/app2/updateappmessage/app2-changed

POST http://localhost:30904/app2/updateappmessage/app2-changed

PUT http://localhost:30904/app2/updateappmessage/app2-changed

PUT http://localhost:30904/app2/updateappmessage/app2-changed

PUT http://localhost:30904/app2/updateappmessage/app2-changed

PUT http://localhost:30904/app2/updateappmessage/app2-changed

Untitled Request

Send Save

Params Authorization Headers (3) Body Pre-request Script Tests Settings Cookies Code

Query Params

KEY	VALUE	DESCRIPTION
Key	Value	Description

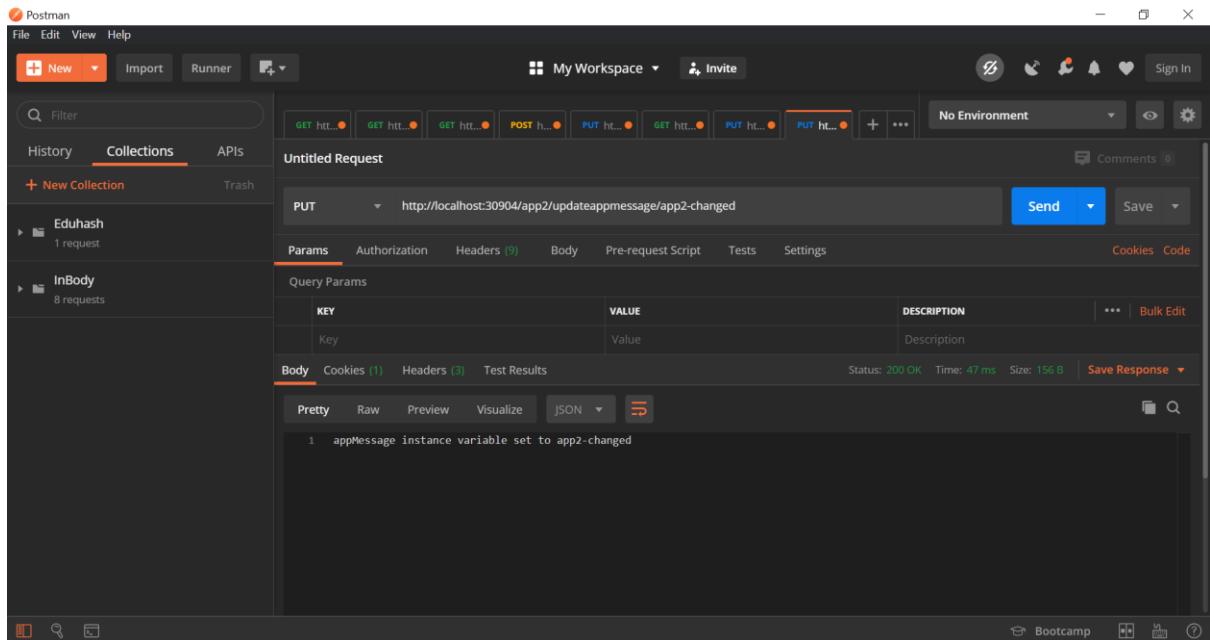
Body Cookies (1) Headers (3) Test Results

Pretty Raw Preview Visualize JSON

1 appMessage instance variable set to app2-changed

Status: 200 OK Time: 47 ms Size: 156 B Save Response

Bootcamp



Kubernetes Dashboard | localhost:31550/app1/app1toapp2 | localhost:30904/app2/ | +

localhost:30904/app2/

Welcome to application 2 value of instance variable appMessage is app2-changed



Postman

File Edit View Help

New Import Runner

My Workspace Invite

History Collections APIs

+ New Collection

Eduhash 1 request

InBody 8 requests

Untitled Request

GET http://localhost:30904/app2/

Send Save

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Code

Query Params

KEY	VALUE	DESCRIPTION	...	Bulk Edit
Key	Value	Description	...	

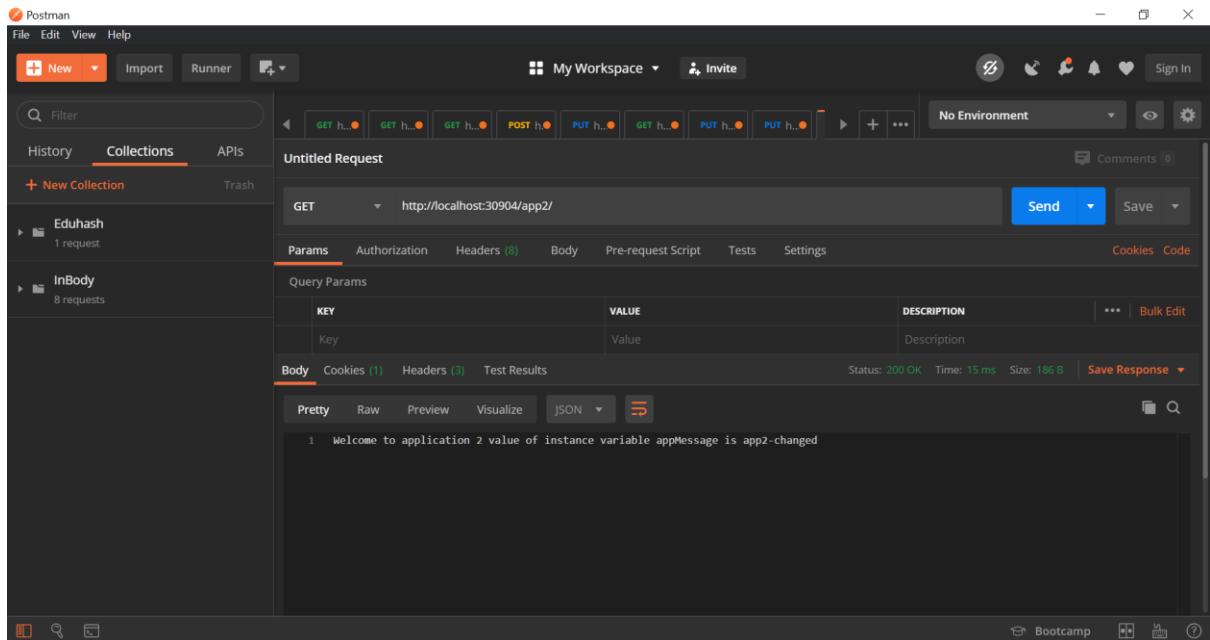
Body Cookies (1) Headers (3) Test Results

Pretty Raw Preview Visualize JSON

1 Welcome to application 2 value of instance variable appMessage is app2-changed

Status: 200 OK Time: 15 ms Size: 186 B Save Response

Bootcamp



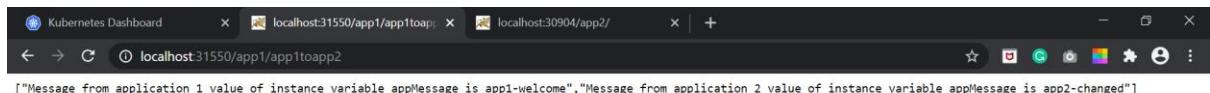
Kubernetes Dashboard

localhost:31550/app1/app1toapp1

localhost:30904/app2/

localhost:31550/app1/app1toapp2

["Message from application 1 value of instance variable appMessage is app1-welcome","Message from application 2 value of instance variable appMessage is app2-changed"]





We can see that app2 message is changing randomly, as two pods with different instance variable is providing output.

This also shows **service** is load balancing between the pods.