

## Kubernetes Installation

19 November 2025 10:58

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**Never outgrow**

Whether testing locally or running a global enterprise, Kubernetes flexibility grows with you to deliver your applications consistently and easily no matter how complex your need is.



**Run K8s anywhere**

Kubernetes is open source giving you the freedom to take advantage of on-premises, hybrid infrastructure, letting you effortlessly move workloads to where it matters to you.

To download Kubernetes, visit the [download](#) section.

[kubectl reference documentation](#).

kubectl is installable on a variety of Linux platforms, macOS and Windows. Find your preferred operating system below.

- [Install kubectl on Linux](#)
- [Install kubectl on macOS](#)
- [Install kubectl on Windows](#)

unforeseen issues.

Configure kubectl  
Install kubectl convert plug  
What's next

## Install kubectl on Windows

The following methods exist for installing kubectl on Windows:

- [Install kubectl binary on Windows \(via direct download or curl\)](#)
- [Install on Windows using Chocolatey, Scoop, or Winget](#)

### Install kubectl binary on Windows (via direct download or curl)

1. You have two options for installing kubectl on your Windows device
  - Direct download:



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**NOTE**

Please inspect <https://community.chocolatey.org/install.ps1> prior to running any of these scripts to ensure safety. We already know it's safe, but you should verify the security and contents of *any* script from the internet you are not familiar with. All of these scripts download a remote PowerShell script and execute it on your machine. We take security very seriously. [Learn more about our security protocols.](#)

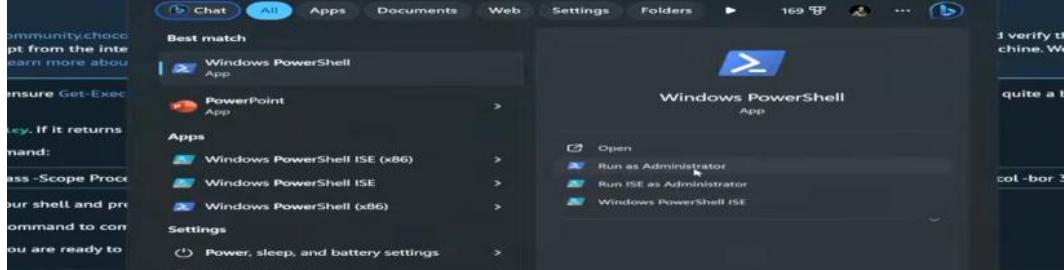
With PowerShell, you must ensure `Get-ExecutionPolicy` is not Restricted. We suggest using `Bypass` to bypass the policy to get things installed or `AllSigned` for quite a bit more security.

- o Run `Get-ExecutionPolicy .` If it returns `Restricted`, then run `Set-ExecutionPolicy AllSigned` or `Set-ExecutionPolicy Bypass -Scope Process`.

Now run the following command:

```
> Set-ExecutionPolicy Bypass -Scope Process -Force; [System.Net.ServicePointManager]::SecurityProtocol = [System.Net.ServicePointManage]
```

3. Paste the copied text into your shell and press Enter.



The screenshot shows the Windows Start Menu search interface. The search bar at the top contains the text "community.choco". Below the search bar, there is a list of results under the heading "Best match". The first result is "Windows PowerShell" (App), which is highlighted with a red box. Other results include "PowerPoint" (App), "Windows PowerShell ISE (x86)", "Windows PowerShell ISE", and "Windows PowerShell (x86)". To the right of the search results, there is a preview window showing the Windows PowerShell app icon and some text. At the bottom of the screen, there is a command-line interface window with some text and a red box highlighting the command "Set-ExecutionPolicy Bypass -Scope Process -Force; [System.Net.ServicePointManager]::SecurityProtocol = [System.Net.ServicePointManage]".

```
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\WINDOWS\system32> Set-ExecutionPolicy Bypass -Scope Process -Force; [System.Net.ServicePointManager]::SecurityProtocol = [System.Net.ServicePointManager]::SecurityProtocol -bor 3072; iex ((New-Object System.Net.WebClient).DownloadString('https://community.chocolatey.org/install.ps1'))
WARNING: 'choco' was found at 'C:\ProgramData\chocolatey\bin\choco.exe'.
WARNING: An existing Chocolatey installation was detected. Installation will not continue. This script will not
overwrite existing installations.
If there is no Chocolatey installation at 'C:\ProgramData\chocolatey', delete the folder and attempt the installation
again.

Please use choco upgrade chocolatey to handle upgrades of Chocolatey itself.
If the existing installation is not functional or a prior installation did not complete, follow these steps:
- Backup the files at the path listed above so you can restore your previous installation if needed.
- Remove the existing installation manually.
- Rerun this installation script.
- Reinstall any packages previously installed, if needed (refer to the lib folder in the backup).

Once installation is completed, the backup folder is no longer needed and can be deleted.
PS C:\WINDOWS\system32>
```

Install on Windows using Chocolatey, Scoop, or winget

1. To install kubectl on Windows you can use either [Chocolatey](#) package manager, [Scoop](#) command-line installer, or [winget](#) package manager.



2. Test to ensure the version you installed is up-to-date:

```
C:\Windows\System32>choco install kubernetes-cli
Chocolatey v2.2.2
kubernetes<1
By installing, you accept licenses for the packages.
Progress: Downloading kubernetes-cli 1.28.2... 100%
kubernetes-cli v1.28.2 [Approved]
kubernetes-cli package files install completed. Performing other installation steps.
The package kubernetes-cli wants to run 'chocolateyInstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[A]ll - yes to all/[N)o/[P]rint):
```

```
C:\Users\DELL>kubectl version --client
Client Version: v1.32.2
Customize Version: v5.5.0
C:\Users\DELL>
```

## What's next ↗

- [Install Minikube](#)
- See the [getting started guides](#) for more about creating clusters.
- [Learn how to launch and expose your application.](#)
- If you need access to a cluster you didn't create, see the [Sharing Cluster Access document](#).
- Read the [kubectl reference docs](#)

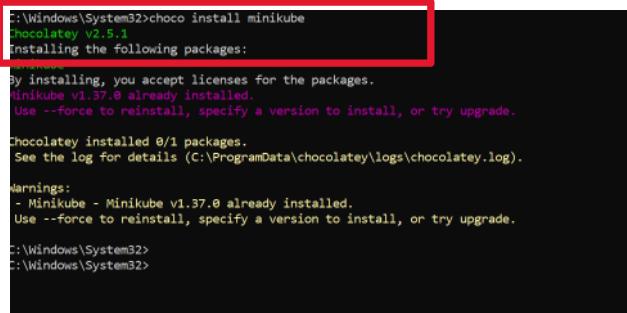
Click on the buttons that describe your target platform. For other architectures, see [the release page](#) for a complete list of minikube binaries.



To install the latest minikube **stable** release on **x86-64 Windows** using **Chocolatey**:

If the [Chocolatey Package Manager](#) is installed, use the following command:

```
choco install minikube
```



```
C:\Windows\System32>choco install minikube
[minikube v2.5.1]
Installing the following packages:
By installing, you accept licenses for the packages.
minikube v1.37.0 already installed.
Use --force to reinstall, specify a version to install, or try upgrade.

Chocolatey installed 0/1 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).

Warnings:
- Minikube - Minikube v1.37.0 already installed.
Use --force to reinstall, specify a version to install, or try upgrade.

C:\Windows\System32>
C:\Windows\System32>
```

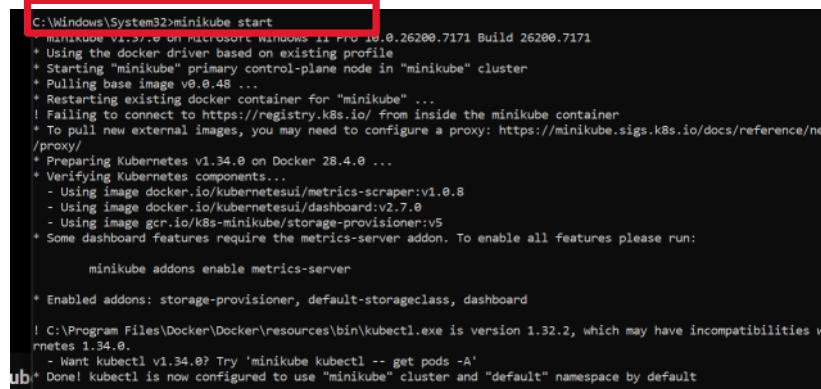
## 2 Start your cluster

From a terminal with administrator access (but not logged in as root), run:

```
minikube start
```

If minikube fails to start, see the [drivers page](#) for help setting up a compatible container or virtual-machine manager.

## 3 Interact with your cluster



```
C:\Windows\System32>minikube start
[minikube v1.37.0 on Microsoft Windows 11 Pro 10.0.26200.7171 Build 26200.7171
+ Using the docker driver based on existing profile
+ Starting "minikube" primary control-plane node in "minikube" cluster
+ Pulling base image v0.0.48 ...
+ Restarting existing docker container for "minikube" ...
! Failing to connect to https://registry.k8s.io/ from inside the minikube container
+ To pull new external images, you may need to configure a proxy: https://minikube.sigs.k8s.io/docs/reference/config/proxy/
+ Preparing Kubernetes v1.34.0 on Docker 28.4.0 ...
+ Verifying Kubernetes components...
- Using image docker.io/kubernetesui/metrics-scraper:v1.0.8
- Using image docker.io/kubernetesui/dashboard:v2.7.0
- Using image gcr.io/k8s-minikube/storage-provisioner:v5
+ Some dashboard features require the metrics-server addon. To enable all features please run:
    minikube addons enable metrics-server
+ Enabled addons: storage-provisioner, default-storageclass, dashboard
! C:\Program Files\Docker\Resources\bin\kubectl.exe is version 1.32.2, which may have incompatibilities with Kubernetes 1.34.0.
- Want kubectl v1.34.0? Try 'minikube kubectl -- get pods -A'
ubi* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
```



CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
8b39b0f6977	gcr.io/k8s-minikube/kicbase:v0.0.48	"/usr/local/bin/entr..."	4 weeks ago	Up About a minute
			1:55298->22/tcp, 127.0.0.1:55300->2376/tcp, 127.0.0.1:55296->5000/tcp, 127.0.0.1:55299->8443/tcp, 127.0.0.1:55301->443/tcp	
				/tcp minikube

```
C:\Windows\System32>docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
...
3b39b30f6977 gcr.io/k8s-minikube/kicbase:v0.0.48 "/usr/local/bin/entr..." 4 weeks ago Up About a minute 127.0.0.1:55298->22/tcp, 127.0.0.1:55300->2376/tcp, 127.0.0.1:55296->5000/tcp, 127.0.0.1:55299->8443/tcp, 127.0.0.1:55297->32443
/tcp minikube

C:\Windows\System32>minikube dashboard
```

The screenshot shows a Windows desktop environment. At the top, there is a taskbar with various icons. Below it is a browser window titled "kubernetes" showing the "Workloads" page. The page content says "There is nothing to display here" and includes instructions: "You can deploy a containerized app, select other namespace or take the Dashboard Tour." To the left of the browser is a command-line interface window with a red box highlighting the command "minikube status". The output of the command is:

```
C:\Windows\System32>minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured
```

```
Microsoft Windows [Version 10.0.20200.7171]
(c) Microsoft Corporation. All rights reserved.

C:\Users\DELL>kubectl get services
NAME      TYPE      CLUSTER-IP   EXTERNAL-IP   PORT(S)   AGE
kubernetes   ClusterIP  10.96.0.1    <none>        443/TCP   27d

C:\Users\DELL>kubectl create deployment my-nginx --image=nginx
deployment.apps/my-nginx created

C:\Users\DELL>kubectl get deployments
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
my-nginx  0/1     1           0           13s

C:\Users\DELL>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
my-nginx-54fc6798c5-s56t2  1/1     Running   0          54s

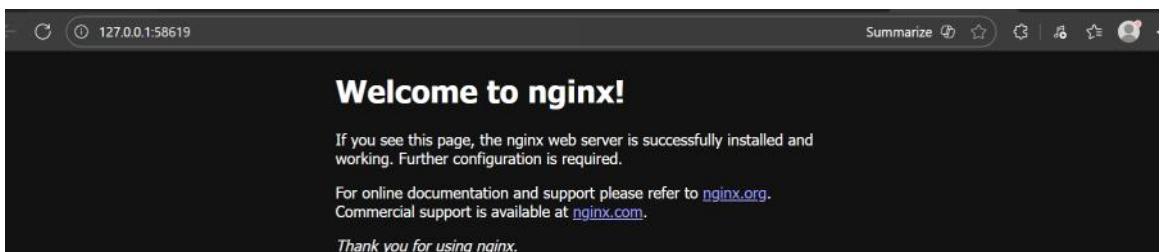
C:\Users\DELL>minikube dashboard
* Verifying dashboard health ...
* Launching proxy ...
* Verifying proxy health ...
* Opening http://127.0.0.1:63406/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in your default browser...
```

```
C:\Users\DELL>kubectl expose deployment my-nginx --port=80 --type=LoadBalancer
service/my-nginx-exposed

C:\Users\DELL>kubectl get services
NAME           TYPE      CLUSTER-IP   EXTERNAL-IP   PORT(S)        AGE
kubernetes     ClusterIP  10.96.0.1    <none>        443/TCP       28d
my-nginx       LoadBalancer 10.107.159.46  <pending>    80:30698/TCP  23s

C:\Users\DELL>minikube service my-nginx
NAME:         my-nginx
Namespace:    default
Labels:       <none>
Annotations: <none>
Selector:    app=nginx
Type:        LoadBalancer
Port(<name>): 80<-->30698/TCP
Endpoints:   192.168.49.2:30698
Session Affinity: None
External IP:  http://127.0.0.1:58619

* Starting tunnel for service my-nginx...
* Starting tunnel for service my-nginx...
* Starting tunnel for service my-nginx...
* Opening service default/my-nginx in default browser...
! Because you are using a Docker driver on windows, the terminal needs to be open to run it.
```



## Kubernetes Basics Modules



1. Create a  
Kubernetes  
cluster



2. Deploy an app



3. Explore your  
app



4. Expose your  
app publicly



5. Scale up your  
app



6. Update your  
app

```

PS E:\Projects> npx create-react-app testapp
npx : File C:\Program Files\nodejs\npx.ps1 cannot be loaded because running scripts is disabled on this system. For more information, see about_Execution_Policies at https://go.microsoft.com/fwlink/?LinkId=135170.
At line:1 char:2
+ npx create-react-app testapp
+ ~~~
+ CategoryInfo          : SecurityError: () [], PSNotSupportedException
+ FullyQualifiedErrorId : UnauthorizedAccess
PS E:\Projects> npx create-react-app testapp
Need to install the following packages:
create-react-app@5.1.0
Ok to proceed? (Y) y

npm warn deprecated uid-number@0.0.6: This package is no longer supported.
npm warn deprecated rimraf@2.7.1: Rimraf versions prior to v4 are no longer supported.
npm warn deprecated fstream-ignore@1.0.5: This package is no longer supported.
npm warn deprecated fstream@1.0.12: This package is no longer supported.
npm warn deprecated tar@2.2.2: This version of tar is no longer supported, and will not receive security updates. Please upgrade asap.
npm warn deprecated inflight@0.6: This module is not supported, and leaks memory. Do not use it. Check out lrucache if you want a good and
way to coalesce async requests by a key value, which is much more comprehensive and powerful.
npm warn deprecated glob@7.2.3: Glob versions prior to v9 are no longer supported
create-react-app is deprecated.

You can find a list of up-to-date React frameworks on react.dev
For more info see:https://react.dev/link/cra

This error message will only be shown once per install.

```

```

PS E:\Projects> npx create-react-app testapp
npx : File C:\Program Files\nodejs\npx.ps1 cannot be loaded because running scripts is disabled on this system. For more information, see
about_Execution_Policies at https://go.microsoft.com/fwlink/?LinkId=135170.
At line:1 char:2
+ npx create-react-app testapp
+ ~~~
+ CategoryInfo          : SecurityError: () [], PSNotSupportedException
+ FullyQualifiedErrorId : UnauthorizedAccess
PS E:\Projects> npx create-react-app testapp
Need to install the following packages:
create-react-app@5.1.0
Ok to proceed? (Y) y

npm warn deprecated uid-number@0.0.6: This package is no longer supported.
npm warn deprecated rimraf@2.7.1: Rimraf versions prior to v4 are no longer supported.

```

```

npm start
  Starts the development server.

npm run build
  Bundles the app into static files for production.

npm test
  Starts the test runner.

npm run eject
  Removes this tool and copies build dependencies, configuration files
  and scripts into the app directory. If you do this, you can't go back!

We suggest that you begin by typing:

cd testapp
npm start

TIMELINE
The active editor
cannot provide
timeline information.

Happy hacking!
npm notice
npm notice New patch version of npm available! 11.6.2 -> 11.6.3
npm notice Changelog: https://github.com/npm/cli/releases/tag/v11.6.3
npm notice To update run: npm install -g npm@11.6.3
npm notice
PS E:\Projects> []

```

```

package-lock.json
package.json
README.md

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

npx notice To update run: npm install -g npm@11.6.3
npx notice
PS E:\Projects> cd testapp/
PS E:\Projects\testapp> npm start

> testapp@0.1.0 start
> react-scripts start

(node:5288) [DEP0176] DeprecationWarning: fs.F_OK is deprecated, use fs.constants.F_OK instead
(use 'node --trace-deprecation ...' to show where the warning was created)
(node:5288) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
(node:5288) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarning: 'onBeforeSetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
Starting the development server...
Compiled successfully!

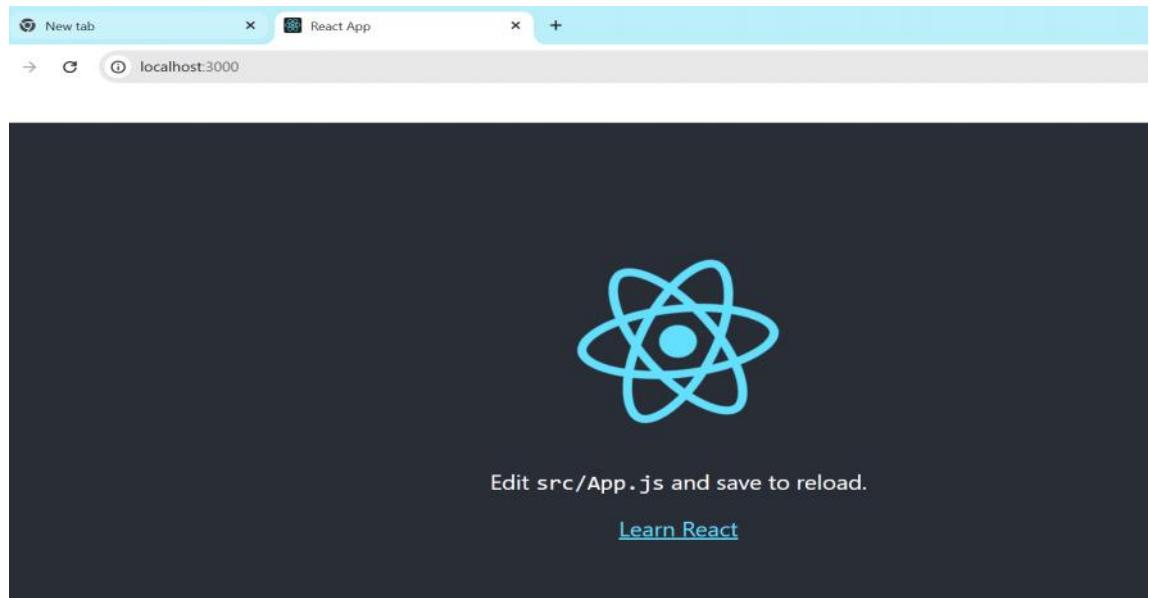
You can now view testapp in the browser.

  Local:      http://localhost:3000
  On Your Network: http://172.17.240.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully

```



The screenshot shows a code editor interface with the 'App.js' file open. The file contains the following code:

```
testapp > src > JS App.js > ...
1 import logo from './logo.svg';
2 import './App.css';
3
4 function App() {
5   return (
6     <div className="App">
7       <header className="App-header">
8         <img src={logo} className="App-logo" alt="logo" />
9         <p>
10           Edit <code>src/App.js</code> and save to reload.
11         </p>
12         <a
13           className="App-link"
14           href="https://reactjs.org"
15           target="_blank"
16           rel="noopener noreferrer"
17         >
18           Learn React
19         </a>
20       </header>
21     </div>
22   );
23 }
```

The terminal below shows the command 'npm start' being run, outputting deployment warnings:

```
npm notice
PS E:\Projects> cd testapp/
PS E:\Projects\testapp> npm start
> testapp@0.1.0 start
> react-scripts start
(node:5288) [DEP0176] DeprecationWarning: fs.F_OK is deprecated, use fs.constants.F_OK instead
(use 'node --trace-deprecation ...' to show where the warning was created)
(node:5288) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
```

The screenshot shows a web browser window displaying a Docker container's output. The page content includes a large blue atom logo, followed by the text 'HELLO THIS IS MY FIRST DOCKER PROJECT' and a 'Learn React' link.

```

> node_modules
> public
< src
  # App.css
  JS App.js
  JS App.test.js
  # index.css
  JS index.js
  logo.svg
  JS reportWebVitals.js
  JS setupTests.js
  .gitignore
  package-lock.json
  package.json
  README.md

```

```

3
4   function App() {
5     return (
6       <div className="App">
7         <header className="App-header">
8           <img src={logo} className="App-logo" alt="logo" />
9           | HELLO THIS IS MY FIRST DOCKER PROJECT
10          </p>
11          <a
12            className="App-link"
13            href="https://reactjs.org"
14            target="_blank"
15            rel="noopener noreferrer"
16          >
17            Learn React
18          </a>
19        </header>
20      </div>
21    );
22  }
23

```

```

PS E:\Projects> cd testapp
PS E:\Projects\testapp> docker images
error during connect: Head "http://%2F%2Fpipe%2FdockerDesktopLinuxEngine/_ping": open //./pipe/dockerDesktopLinuxEngine: The system cannot find the file specified.
PS E:\Projects\testapp> docker images
REPOSITORY          TAG      IMAGE ID      CREATED     SIZE
nginx              alpine   b3c656d5d7a  3 weeks ago  79.8MB
mysql              latest   5694c128dfaf  4 weeks ago  1.27GB
mysql              8.0     f3795fc1c3753  4 weeks ago  1.07GB
alpine             latest   4b7ce07002c6  6 weeks ago  12.8MB
ubuntu             latest   66460bd57b25  7 weeks ago  117MB
gcr.io/k8s-minikube/kicbase
gcr.io/k8s-minikube/kicbase
hello-world        latest   7171c97a5162  2 months ago  1.84GB
docker/desktop-kubernetes
registry.k8s.io/kube-apiserver
v1.32.2           v1.32.2  41454ef774dd0  2 months ago  1.84GB
registry.k8s.io/kube-scheduler
v1.32.2           v1.32.2  f7931603f70e  3 months ago  20.3kB
registry.k8s.io/kube-controller-manager
v1.32.2           v1.32.2  fdd1722efdc  9 months ago  596MB
registry.k8s.io/kube-proxy
busbybox          latest   c47449f3e751  9 months ago  129MB

```

```

Dockerfile
PS E:\Projects\testapp> docker build -t billalbashir136/demorepository:01 .
[+] Building 156.3s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> transferring dockerfile: 13B
=> [internal] load metadata for docker.io/library/node:latest
=> [internal] load .dockerrcignore
=> [internal] load .dockerignore
=> [internal] transfer context: 2B
=> [1/4] FROM docker.io/library/node:latest@sha256:7478f3725ef76ceba257a681bea43c5eb7eb5bd424fec3df3a0ff77203305e
=> resolving docker.io/library/node:latest@sha256:7478f3725ef76ceba257a681bea43c5eb7eb5bd424fec3df3a0ff77203305e
=> sha256:7d86704c191d29f8c98efcf40c6d159808a2f4f1a07f2856a087275be98b 4470 / 447B
=> sha256:7d9d662fc17fd991d406798c65a9114787296a9bf3b82e61dc7a7f71198e 1.259B
=> sha256:435cbc1d6a03726bbccf8f7d22a99b97e32104aa77a066a1231064e0e5eb 56.16MB
=> sha256:78c788040163ea715b547f995a5b90f7d7b88634f54deab1d35c7ee161814936 3.33kB
=> sha256:a1200d53e0067932469017a5ef196e15e5ed2aae9143d62908aeh2f8593eeb9a 211.469B
=> sha256:078b2eece9b24f617524f986d0d4d4f977e1e/d0f15a0088a5841477c0ba05 64.469B
=> sha256:0cff261e05ceef6d4e729e682831atababrc7c017569a45df12240bc73712d 24.039B
=> sha256:70827442af2dd66f97a5c45bb0b8bf481c6b43785111f287fd4de4eb 48.489B / 48.489B
=> extracting sha256:70827442af2dd66f97a5c45bb0b8bf481c6b43785111f287fd4de4eb
=> extracting sha256:4cfff261e05ceef6d4e729e682831atababrc7c017569a45df12240bc73712d
=> extracting sha256:078b2eece9b24f617524f986d0d4d4f977e1e/d0f15a0088a5841477c0ba05
=> extracting sha256:a1200d53e0067932469017a5ef196e15e5ed2aae9143d62908aeh2f8593eeb9a

```

```

reportWebVitals.js
JS setupTests.js
.gitignore
Dockerfile
  package-lock.json
  package.json
  README.md

```

```

PS E:\Projects\testapp> docker build -t billalbashir136/demorepository:01 .
=> => unpacking to docker.io/billalbashir136/demorepository:01
PS E:\Projects\testapp> docker images
REPOSITORY          TAG      IMAGE ID      CREATED     SIZE
billalbashir136/demorepository
 01   b3c656d5d7a  3 weeks ago  79.8MB
alpine              latest   5694c128dfaf  4 weeks ago  1.27GB
mysql              latest   f3795fc1c3753  4 weeks ago  1.07GB
mysql              8.0     4b7ce07002c6  6 weeks ago  12.8MB
ubuntu             latest   66460bd57b25  7 weeks ago  117MB
gcr.io/k8s-minikube/kicbase
gcr.io/k8s-minikube/kicbase
hello-world        latest   7171c97a5162  2 months ago  1.84GB
docker/desktop-kubernetes
registry.k8s.io/kube-apiserver
v1.32.2           v1.32.2  41454ef774dd0  2 months ago  1.84GB
registry.k8s.io/kube-controller-manager
v1.32.2           v1.32.2  f7931603f70e  3 months ago  20.3kB
registry.k8s.io/kube-proxy
registry.k8s.io/kube-scheduler
v1.32.2           v1.32.2  fdd1722efdc  9 months ago  596MB
registry.k8s.io/kube-proxy
busybox            latest   c47449f3e751  9 months ago  129MB
registry.k8s.io/coredns/coredns
v1.11.3           v1.11.3  e3652a00a2fa  14 months ago  6.789B
registry.k8s.io/pause
3.10              3.10    e66521f29802  18 months ago  1.699B
docker/desktop-vpnkit-controller
dc331cb22856be0cd97c84a9cfecaf44a1afb6e

```

```

OPEN EDITORS
  < PROJECTS
    < testapp
      > public
      < src
        # App.css
        JS App.js
        JS App.test.js
        # index.css
        JS index.js
        logo.svg
        JS reportWebVitals.js
        JS setupTests.js
        .gitignore
        Dockerfile
        package-lock.json
        package.json
        README.md

```

```

10  CMD ["npm", "start"]

```

```

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

```

```

PS E:\Projects\testapp> docker images
java          6b38
PS E:\Projects\testapp> docker push billalbashir136/demorepository:01
The push refers to repository [docker.io/billalbashir136/demorepository]
68e5d1deeef9: Already exists
9801632b789d: Layer already exists
85bfc19a1c5b: Layer already exists
a1200d53e006: Layer already exists
078b2eece9b2: Layer already exists
708274aafe49: Layer already exists
435cbc1d6a03: Layer already exists
8cff261e05c: Layer already exists
29d662fc17f: Layer already exists
78c788040163: Layer already exists
f03865a7be67: Layer already exists
73d86704c819: Layer already exists
01: digest: sha256:e21b6c9d323cf1d15995bc0b484c56ea54ace3e943acfdefb9a217f952f067de8 size: 856
PS E:\Projects\testapp>

```

```

JS reportWebVitals.js
JS setupTests.js
└ .gitignore
Dockerfile
├ package-lock.json
└ package.json
README.md

73d86704c819: Layer already exists
01: digest: sha256:e21b5c9d323cf15995bc0b484c56ea54ace3e943acfdefb9a217f952f067de8 size: 856
PS E:\Projects\testapp> minikube status
minikube
type: Control Plane
host: Stopped
kubelet: Stopped
apiserver: Stopped
kubeconfig: Stopped

PS E:\Projects\testapp> minikube start
minikube v1.37.0 on Microsoft Windows 11 Pro 10.0.26200.7171 Build 26200.7171
Using the docker driver based on existing profile
Starting "minikube" primary control-plane node in "minikube" cluster
Pulling base image v0.0.48...
Restarting existing docker container for "minikube"

```

```

Dockerfile
├ package-lock.json
└ package.json
README.md

+ minikube status
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (minikube
e:String) [], CommandNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException
n

PS E:\Projects\testapp> minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: configured

PS E:\Projects\testapp> kubectl create deployment my-webapp --image=bilalbashir136/demorepository:01
error: unknown flag: --image
See "kubectl create --help" for usage.
See "kubectl create --help" for usage.
PS E:\Projects\testapp> kubectl create deployment my-webapp --image=bilalbashir136/demorepository:01
deployment.apps/my-webapp created
PS E:\Projects\testapp>
```

```

.gitignore
Dockerfile
├ package-lock.json
└ package.json
README.md

error: unknown flag: --image
See "kubectl create --help" for usage.
PS E:\Projects\testapp> kubectl create deployment my-webapp --image=bilalbashir136/demorepository:01
deployment.apps/my-webapp created
PS E:\Projects\testapp> kubectl get deployment
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
my-nginx   1/1     1           1           3d3h
my-webapp  0/1     1           0           91s
PS E:\Projects\testapp> kubectl get pods
NAME            READY   STATUS    RESTARTS   AGE
my-nginx-54fc6798c5-s56t2  1/1     Running   2 (5m15s ago)  3d3h
my-webapp-55dd048f-komlt   1/1     Running   0           2m12s
PS E:\Projects\testapp> minikube dashboard
Verifying dashboard health ...
Launching proxy ...
Verifying proxy health ...
Opening http://127.0.0.1:55016/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in your default browser...
```

**Workloads**

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

**Deployments**      **Pods**

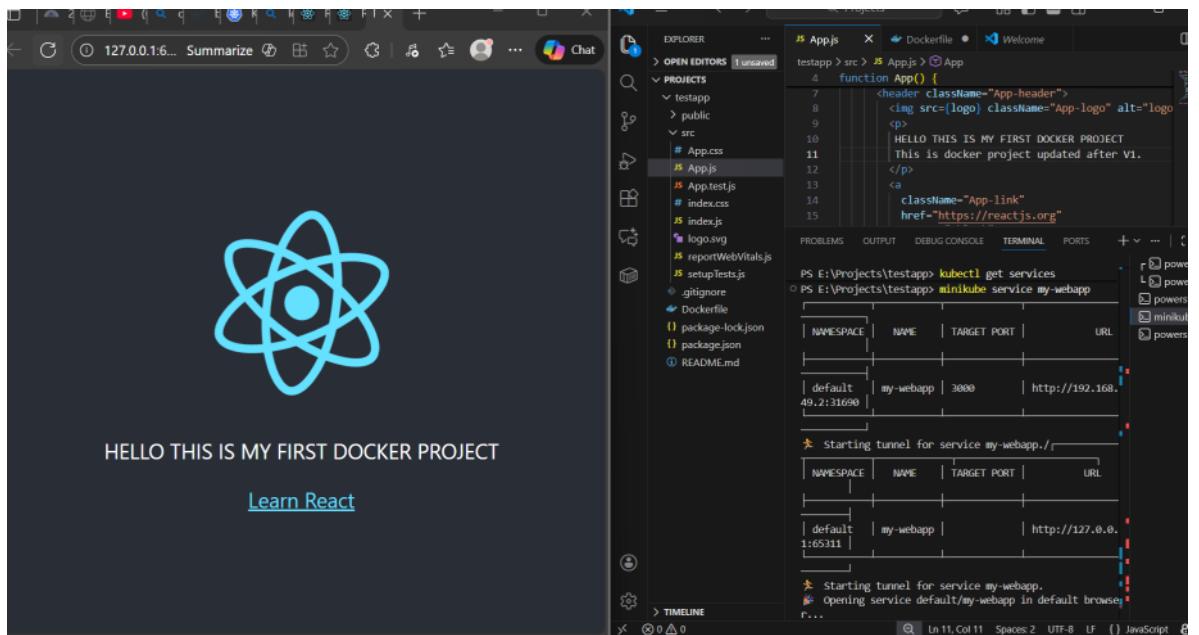
```

Dockerfile
├ package-lock.json
└ package.json
README.md

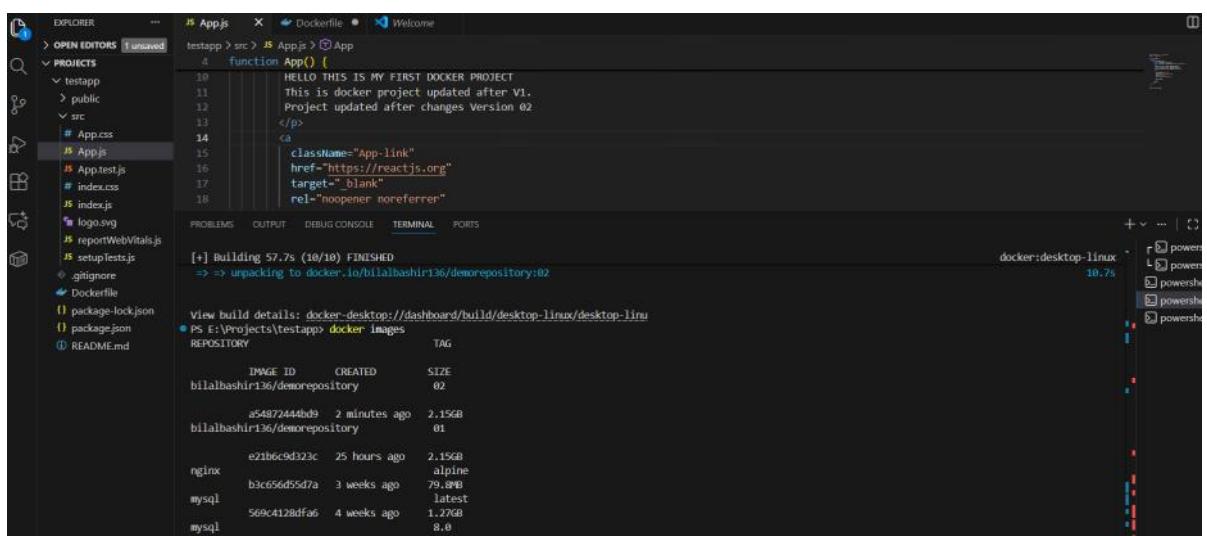
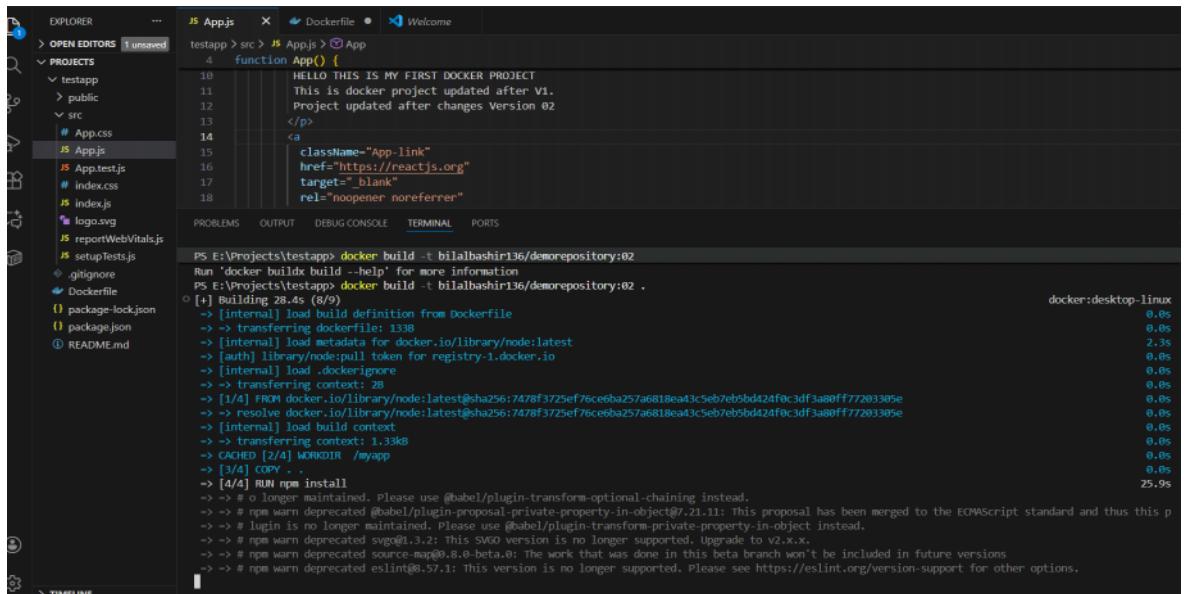
my-webapp LoadBalancer 10.106.142.60 <pending> 3000:31690/TCP 6m30s
PS E:\Projects\testapp> minikube service my-webapp
NAME        PORT(S)    URL
default     3000      http://192.168.49.2:31690

Starting tunnel for service my-webapp./_
NAME        PORT(S)    URL
default     3000      http://127.0.0.1:54133

Starting tunnel for service my-webapp.
Opening service default/my-webapp in default browser...
Because you are using a Docker driver on windows, the terminal needs to be open to run it.
PS E:\Projects\testapp> kubectl expose deployment my-webapp --type=LoadBalancer --port=3000
Error from server (AlreadyExists): services "my-webapp" already exists
PS E:\Projects\testapp> kubectl get services
NAME      TYPE      CLUSTER-IP   EXTERNAL-IP   PORT(S)   AGE
kubernetes ClusterIP  10.96.0.1    <none>       443/TCP   31d
my-nginx   LoadBalancer 10.107.159.46 <pending>   80:30698/TCP 3d2h
my-webapp  LoadBalancer 10.106.142.60 <pending>   3000:31690/TCP 7m44s
PS E:\Projects\testapp>
```



Updating project in live environment :update source file,then create docker file and upload



Push the images

```

① README.md
docker/desktop-storage-provisioner      v2.0
java                                     eb38
PS E:\Projects\testapp> docker push bilalbashir136/demorepository:02
The push refers to repository [docker.io/bilalbashir136/demorepository]
73d86794c819: Layer already exists
0d682f1995663: Pushed
8cdff261ed5c: Layer already exists
4f1458c55d54: Pushed
93c80949280: Pushed
29dd662f17f: Layer already exists
85bfcc19a1c5b: Layer already exists
78c780840163: Layer already exists
435cbc1d6a03: Layer already exists
708274aafe49: Layer already exists
a1208d53eb66: Layer already exists
078b2eccc9b2: Layer already exists
02: digest: sha256:a5d87244bd9d6493eeb273bae8b7be8bbf713996a51b5fa08cfef69c6bd7a size: 856
② PS E:\Projects\testapp>

```

The screenshot shows the Docker Hub interface for the repository `bilalbashir136/demorepository`. It displays two tags: `02` and `01`.

TAG	Digest	OS/ARCH	Last pull	Compressed size
<code>02</code>	<code>fbd85d51edca</code>	linux/amd64	less than 1 day	474.56 MB
<code>01</code>	<code>acba1c8e3d09</code>	linux/amd64	less than 1 day	474.57 MB

```

This is docker project updated after V1.
Project updated after changes Version 02
</p>
<a href="https://reactjs.org" target="_blank" rel="noopener noreferrer">
  className="App-link"
  href="https://reactjs.org"
  target="_blank"
  rel="noopener noreferrer"
</a>
PS E:\Projects\testapp> docker images
PS E:\Projects\testapp> kubectl get deployment
NAME          READY   UP-TO-DATE   AVAILABLE   AGE
my-nginx      1/1     1            1           3d4h
my-webapp    1/1     1            1           46h
PS E:\Projects\testapp> kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
my-nginx-54fc6798c5-ss6t2  1/1   Running   2 (49m ago)  3d4h
my-webapp-55df6d6af8-koelt  1/1   Running   0          46h
PS E:\Projects\testapp> kubectl set image deployment my-webapp my
PS E:\Projects\testapp> minikube dashboard
  ✓ verifying dashboard health ...
  ✓ Launching proxy ...
  ✓ Verifying proxy health ...
  ➔ Opening http://127.0.0.1:56352/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in your default browser...
PS E:\Projects\testapp> kubectl set image deployment my
  ✓ kubectl set image deployment my
  ● PS E:\Projects\testapp> kubectl set image deployment my
  ● deployment.apps/my-webapp image updated
  ● PS E:\Projects\testapp> kubectl get pods
  NAME          READY   STATUS    RESTARTS   AGE
  my-nginx-54fc6798c5-ss6t2  1/1   Running   2 (56m ago)  3d4h
  my-webapp-55df6d6af8-koelt  1/1   Running   0          53m
  my-webapp-5654c6db-6mhw  0/1   ContainerCreating   0           7s
  ○ PS E:\Projects\testapp>

```

App updated older pod deleted automatically

```

PS E:\Projects\testapp> docker images
PS E:\Projects\testapp> kubectl set image deployment my-webapp myc
PS E:\Projects\testapp> minikube dashboard
  Verifying dashboard health ...
  Launching proxy ...
  Verifying proxy health ...
  Opening http://127.0.0.1:56352/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in your default browser...
PS E:\Projects\testapp> kubectl set image deployment myc
  kubectl set image deployment myc
PS E:\Projects\testapp> kubectl set image deployment myc deployment.apps/my-webapp image updated
PS E:\Projects\testapp> kubectl get pods
  NAME          READY   STATUS    RESTARTS   AGE
  my-nginx-54fc679c5-s56t2   1/1     Running   2 (5m ago)  3d4h
  my-webapp-55fd6d6ff-kwalt   1/1     Running   0          53m
  my-webapp-57654c56db-6mbxv  0/1     ContainerCreating   0          7s
PS E:\Projects\testapp> kubectl get pods
  NAME          READY   STATUS    RESTARTS   AGE
  my-nginx-54fc679c5-s56t2   1/1     Running   2 (5m ago)  3d4h
  my-webapp-57654c56db-6mbxv 1/1     Running   0          78s
PS E:\Projects\testapp> kubectl get pods
  NAME          READY   STATUS    RESTARTS   AGE
  my-nginx-54fc679c5-s56t2   1/1     Running   2 (5m ago)  3d4h
  my-webapp-57654c56db-6mbxv 1/1     Running   0          90s
PS E:\Projects\testapp>

```

Workloads > Pods > my-webapp-57654c56db-6mbxv

Name	Ready	Started	Started At
kube-api-access-cdqct	true	true	2025-11-22T10:59:09Z

PROJECTS

- testapp
- public
- src
- App.css
- App.js
- App.test.js
- index.css
- index.js
- logo.svg
- reportWebVitals.js
- setupTests.js
- .gitignore
- Dockerfile
- package-lock.json
- package.json
- README.md

```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS
PS E:\Projects\testapp> minikube service my-webapp
  NAMESPACE | NAME | TARGET PORT | URL
  default   | my-webapp | 3000 | http://192.168.49.2:31690
  default   | my-webapp |  | http://127.0.0.1:55423
  Starting tunnel for service my-webapp...
  Starting tunnel for service my-webapp...
  Opening service default/my-webapp in default browser...
  Because you are using a Docker driver on windows, the terminal needs to be open to run it.

```

[Hello This is my first Docker Project](https://reactjs.org) This is docker project updated after V1. Project updated after changes Version 02

[Learn React](#)