

Step-by-Step Guide to Installing Minikube on Windows for Local Kubernetes Development

Manual Installation:

1. Download Minikube:

- Visit the <https://minikube.sigs.k8s.io/docs/start/?arch=%2Fwindows%2Fx86-64%2Fstable%2F.exe+download> page.
- Download the latest minikube-windows-amd64.exe.

1 Installation

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

Operating system	<input type="button" value="Linux"/>	<input type="button" value="macOS"/>	<input checked="" type="button" value="Windows"/>
Architecture	<input checked="" type="button" value="x86-64"/>		
Release type	<input checked="" type="button" value="Stable"/>		
Installer type	<input checked="" type="button" value=".exe download"/>	<input type="button" value="Windows Package Manager"/>	<input type="button" value="Chocolatey"/>

2. Install Minikube:

To install the latest minikube **stable** release on **x86-64 Windows** using **.exe download**:

1. Download and run the installer for the [latest release](#).

Or if using PowerShell, use this command:

```
New-Item -Path 'c:\' -Name 'minikube' -ItemType Directory -Force
Invoke-WebRequest -OutFile 'c:\minikube\minikube.exe' -Uri 'https://github.com/kubernetes/minikube/releases/latest/download/minikube-windows-amd64.exe' -UseBasicParsing
```

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\ibmtr> New-Item -Path 'c:\' -Name 'minikube' -ItemType Directory -Force

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
d-----          27-06-2024    14:39         minikube

PS C:\Users\ibmtr> Invoke-WebRequest -OutFile 'c:\minikube\minikube.exe' -Uri 'https://github.com/kubernetes/minikube/releases/latest/download/minikube-windows-amd64.exe' -UseBasicParsing
PS C:\Users\ibmtr>
```

Place the kubect.exe file in a directory that's in your system's PATH using this Step 2 Command

2. Add the minikube.exe binary to your PATH .
Make sure to run PowerShell as Administrator.

```
$oldPath = [Environment]::GetEnvironmentVariable('Path', [EnvironmentVariableTarget]::Machine)
if ($oldPath.Split(';') -notcontains 'C:\minikube'){
    [Environment]::SetEnvironmentVariable('Path', $('{0};C:\minikube' -f $oldPath), [EnvironmentVariableTarget]::Machine)
}
```

Administrator: Windows PowerShell

Windows PowerShell

Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

```
PS C:\Windows\system32> $oldPath = [Environment]::GetEnvironmentVariable('Path', [EnvironmentVariableTarget]::Machine)
PS C:\Windows\system32> if ($oldPath.Split(';') -notcontains 'C:\minikube'){
>> [Environment]::SetEnvironmentVariable('Path', $('{0};C:\minikube' -f $oldPath), [EnvironmentVariableTarget]::Machine)
>> }
```

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.

Administrator: Windows PowerShell

```
PS C:\Windows\system32> minikube start
```

```
>>
```

```
* minikube v1.34.0 on Microsoft Windows 11 Home Single Language 10.0.22631.4317 Build 22631.4317
```

```
* Using the docker driver based on existing profile
```

```
* Starting "minikube" primary control-plane node in "minikube" cluster
```

```
* Pulling base image v0.0.45 ...
```

```
* Updating the running docker "minikube" container ...
```

```
! 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/networking/proxy/
```

```
* Preparing Kubernetes v1.31.0 on Docker 27.2.0 ...
```

```
* Verifying Kubernetes components...
```

```
- Using image gcr.io/k8s-minikube/storage-provisioner:v5
```

```
* Enabled addons: default-storageclass, storage-provisioner
```

```
* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
```

```
PS C:\Windows\system32> minikube status
```

```
minikube
```







```
type: Control Plane
```

```
host: Running
```

```
kubelet: Running
```

```
apiserver: Running
```

```
kubeconfig: Configured
```

	Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
	 minikube a082d8277b42 	k8s-minikube/kicbase:v0.0.45	Running	51731:22 ↗ 51732:2376 ↗ 51733:32443 ↗ 51734:5000 ↗ 51735:8443 ↗ Show less	23.54%	6 minutes ago	  

3 Interact with your cluster

If you already have kubectl installed (see [documentation](#)), you can now use it to access your shiny new cluster:

```
kubectl get po -A
```

```
PS C:\Windows\system32> kubectl get po -A
NAMESPACE      NAME                                READY   STATUS    RESTARTS      AGE
kube-system    coredns-6f6b679f8f-8n8dm          1/1     Running   1 (3m19s ago)  5m54s
kube-system    etcd-minikube                     1/1     Running   1 (3m23s ago)  5m59s
kube-system    kube-apiserver-minikube            1/1     Running   1 (3m13s ago)   6m
kube-system    kube-controller-manager-minikube   1/1     Running   1 (3m23s ago)  5m58s
kube-system    kube-proxy-55z8j                  1/1     Running   1 (3m23s ago)  5m54s
kube-system    kube-scheduler-minikube            1/1     Running   1 (3m23s ago)  5m58s
kube-system    storage-provisioner                1/1     Running   2 (3m23s ago)  5m55s
PS C:\Windows\system32>
```

Alternatively, minikube can download the appropriate version of kubectl and you should be able to use it like this:

```
minikube kubectl -- get po -A
```

```
PS C:\Windows\system32> minikube kubectl -- get po -A
> kubectl.exe.sha256: 64 B / 64 B [-----] 100.00% ? p/s 0s
> kubectl.exe: 55.20 MiB / 55.20 MiB [-----] 100.00% 21.81 MiB p/s 2.7s
NAMESPACE      NAME                                READY   STATUS    RESTARTS      AGE
kube-system    coredns-6f6b679f8f-8n8dm          1/1     Running   1 (3m50s ago)  6m25s
kube-system    etcd-minikube                     1/1     Running   1 (3m54s ago)  6m30s
kube-system    kube-apiserver-minikube            1/1     Running   1 (3m44s ago)  6m31s
kube-system    kube-controller-manager-minikube   1/1     Running   1 (3m54s ago)  6m29s
kube-system    kube-proxy-55z8j                  1/1     Running   1 (3m54s ago)  6m25s
kube-system    kube-scheduler-minikube            1/1     Running   1 (3m54s ago)  6m29s
kube-system    storage-provisioner                1/1     Running   2 (3m54s ago)  6m26s
PS C:\Windows\system32>
```

Initially, some services such as the storage-provisioner, may not yet be in a Running state. This is a normal condition during cluster bring-up, and will resolve itself momentarily. For additional insight into your cluster state, minikube bundles the Kubernetes Dashboard, allowing you to get easily acclimated to your new environment:

```
minikube dashboard
```

```
PS C:\Windows\system32> minikube dashboard
* Enabling dashboard ...
  - Using image docker.io/kubernetesui/dashboard:v2.7.0
  - Using image docker.io/kubernetesui/metrics-scraper:v1.0.8
* Some dashboard features require the metrics-server addon. To enable all features please run:

    minikube addons enable metrics-server

* Verifying dashboard health ...
* Launching proxy ...
* Verifying proxy health ...
* Opening http://127.0.0.1:51950/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in your default browser...
```

