In this appendix

- Continuous integration using GitHub Actions
- Creating a Kubernetes cluster on Digital Ocean

Deployment options

- Google Kubernetes engine
- Azure Kubernetes Service
- Amazon Elastic Kubernetes Service
- Digital Ocean
- Many more....

cloud.digitalocean.com/kubernetes/clusters/new?i=21e798&region=sgp1&nodePools=s-2vcpu-4gb%3A3

Search by resource name or public IP (Cmd+B)

Create ⌄

My Team
Estimated costs: $0.00

PROJECTS ⌃

TryCatchLearn

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RE

CarstiesApp

+ New Project

MANAGE ⌃

Apps

Droplets

Functions

Kubernetes

Volumes

Databases

Spaces

Container Registry

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Networking

Choose cluster capacity [?]

Select a plan that best suits your workload type. We can help you choose the right sizing approach 🖹 for overall availability and performance. You can add or remove nodes and node pools at any time.

Select a scaling type

🔘 Fixed size   ⚪ Autoscale [?]

Best for predictable workloads. Manually add and remove nodes.

Node pool name

pool-733vjm3k5

Machine type (Droplet) [?]

Basic nodes
Variable ratio of memory per shared CPU ⌄

Node plan [?]

$24/month per node ($0.036/hour) ⌄
2.5 GB RAM usable (4 GB Total) / 2 vCPUs

Nodes

− 3 +

Cost of all nodes: **$72/month** ($0.11/hour)

Add Another Node Pool

Select additional options

cloud.digitalocean.com/kubernetes/clusters/516dbe4a-949e-45ff-80db-8d6f2b15a15a?i=21e798

Search by resource name or public IP (Cmd+B)

Create ⌄

My Team
Estimated costs: $0.00

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carsties
in ▤ CarstiesApp / SGP1 - 1.27.2-do.0

Kubernetes Dashboard ↗

Actions ⌄

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Networking

Getting Started with Kubernetes

Hide

✓ ~~Create a Kubernetes cluster~~

② **Connecting to Kubernetes**

③ Verify connectivity

④ Deploy a workload

Connecting and managing this cluster

We recommend using Kubernetes official client ↗ and DigitaOcean's command-line tool, doctl 🅑, to interact with and manage clusters. Next, you will need to add an authentication token or certificate to your kubectl configuration file.

| Automated (recommended) | Manual |

This approach automatically renews your cluster's certificate. Run the command below to authenticate:

```
doctl kubernetes cluster kubeconfig save 516dbe4a-949e-45ff-80db-8d6f2b15a15a
```

⊟ Expected output

```
Notice: Adding cluster credentials to kubeconfig file found in "/Users/<username>/.
Notice: Setting current-context to carsties
```

◆ **Docs**   Products   **Tutorials**   Reference   Support   Developer Center [New]   🔍 Search Docs   /   **Sign Up**

📘 **Tutorials**

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▶ Actions ▼   ▼ Filters ▼   Search 🔍

☐ Domains	Status	Auto-Renew	Expiration	
☐ ⚡ example.com	✓ ACTIVE	⬤	May 4, 2018	MANAGE

2. In the **Nameservers** section of the resulting screen, select **Custom DNS** from the dropdown menu and enter the following nameservers:

   ○ ns1.digitalocean.com

   ○ ns2.digitalocean.com

   ○ ns3.digitalocean.com

> **NAMESERVERS**   ❓   Custom DNS ▼   ✓ ✗

ns1.digitalocean.com   ▣
ns2.digitalocean.com
ns3.digitalocean.com
⊕ ADD NAMESERVER

3. Click the green checkmark to apply your changes. Now you are ready to move on to connecting the domain with your

ap.www.namecheap.com/domains/domaincontrolpanel/carsties.store/domain?_gl=1*a6sjki*_ga*NTY4MzgyNzUyLjE2ODk3NjU3N...

CONTACT US ▾   👤 neilcummings ▾   🛒 $0.00 ▾   🔍

✓ DNS server update may take up to 48 hours to take effect.   ✕

Namecheap

Domains ᴺᴱᵂ   Hosting   WordPress   Email ᴺᴱᵂ   Apps ᴺᴱᵂ   Security ᴺᴱᵂ   Transfer to Us ᵀᴿʸ ᴹᴱ   Help Center   Account   ✉

Dashboard

Expiring / Expired

Domain List

Hosting List

Private Email

SSL Certificates

Apps

Profile

Domains → **Details**

🏪 **carsties.store**
🖤+

	🏠 Doma...	📦 Products	🗂 Sharing & Transfer	🖥 Advanced DNS

▶ STATUS & VALIDITY   ?   ✓ ACTIVE   Jul 19, 2023 - Jul 19, 2024   ⚪ AUTO-RENEW   ADD YEARS

⚙ WithheldforPrivacy   ?   🔵 PROTECTION   Jul 19, 2023 - Jul 19, 2024   ⚪ AUTO-RENEW   ADD YEARS

⚙ SHOW DETAILS

💎 PremiumDNS   ?   Enable PremiumDNS protection in order to switch your domain to our PremiumDNS platform. With our PremiumDNS platform, you get 100% DNS uptime and DDoS protection at the DNS level.   BUY NOW

▶ NAMESERVERS   ?   Custom DNS ▾

ns1.digitalocean.com
ns2.digitalocean.com
ns3.digitalocean.com
🔴 ADD NAMESERVER

Actions · TryCatchLearn/C ✕ | Repositories | Docker Hub ✕ | Domains - DigitalOcean ✕ | Point to DigitalOcean Nam ✕ | Domain ✕ +

cloud.digitalocean.com/networking/domains?i=21e798&preserveScrollPosition=false

Search by resource name or public IP (Cmd+B)

Create ⌄

63

My Team
Estimated costs: $0.00

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Billing

Support

Settings

API

☁ Cloudways ↗

⑤ SnapShooter ↗

⊗ Marketplace ↗

⊗ Product Docs ↗

Networking

Domains   Reserved IPs   Load Balancers   VPC   Firewalls   PTR records

Looks like there are no domains here.

You can add one easily, though. Enter a domain below and start managing your DNS with DigitalOcean.

Enter domain
carsties.store ✓

▤ CarstiesApp ⌄

Add Domain

PROJECTS ∧

TryCatchLearn

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RE

CarstiesApp

+ New Project

MANAGE ∨

Billing

Support

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API

Cloudways ↗

SnapShooter ↗

Marketplace ↗

Product Docs ↗

Search by resource name or public IP (Cmd+B)

Create ∨

My Team
Estimated costs: $0.00

CarstiesApp
Class project / Educational purposes / Demo app for Microservices course

→ Move Resources

Resources   Activity   Settings

LOAD BALA   af9a6501e0b0547dca38a0415321910f

af9a6501e0b0547dca38a0415321...   146.190.6.158   1/2   —   •••
SGP1 / 2 Kubernetes nodes

DROPLETS (1)

● 💧 docker-ubuntu-s-1vcpu-1gb-sgp1-01   157.245.192.65   🐳 Get started   + 🗃 + 🗳 •••

DOMAINS (1)

carsties.store   3 NS / 1 SOA   •••

CLUSTERS (1)

● ✺ carsties   2 hours ago   k8s +1   •••

PROJECTS

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☁ Cloudways ↗

⧗ SnapShooter ↗

⊛ Marketplace ↗

⊛ Product Docs ↗

Create new record

A   AAAA   **CNAME**   MX   TXT   NS   SRV   CAA

CNAME records act as an alias by mapping a hostname to another hostname.

HOSTNAME	IS AN ALIAS OF	TTL (SECONDS)	
Enter hostname ∗	Enter @ or hostname ∗	Enter TTL 43200 ✓	Create Record

DNS records

Type	Hostname	Value	TTL (seconds)	
CNAME	api.carsties.store	is an alias of **carsties.store**	43200	More ⌄
CNAME	app.carsties.store Copy	is an alias of **carsties.store**	43200	More ⌄
A	carsties.store	directs to **146.190.6.158**	30	More ⌄
NS	carsties.store	directs to **ns1.digitalocean.com.**	1800	More ⌄

🚗 **Carsties Auctions**

Search for cars by make, model or color 🔍

Login

FILTER BY | 🔥 Live Auctions | ⬜ Ending < 6 hours | ⏱ Completed

ORDER BY | ⇕ Alphabetical | 🕐 End date | ⬤ Recently added

PAGE SIZE | 4 | 8 | 12

Elements | Console | Sources | Network | Performance | Memory | Application | Security | Lighthouse | Recorder ⏵ | Performance insights ⏵ | 🔲 Components | 🔲 Profiler

⊗4 ⚠1 🚩2 ⚙ ⋮ ✕

▣ ⊘ | top ▾ | 👁 | Filter | Default levels ▾ | 4 Issues: 🚩2 💬2 | ⚙

🔴 Access to fetch at 'https://api.carsties.com/notifications/negotiate?negotiateVersion=1' from origin 'http://app.carsties.store' has been blocked by CORS policy: The request client is not a secure context and the app.carsties.store/:1 resource is in more-private address space `local`.

🔴 Failed to load resource: net::ERR_FAILED   api.carsties.com/not…egotiateVersion=1:1 ⊚

⚠ ▶ [2023-07-20T07:27:22.8↑Z] Warning: Error from HTTP request. TypeError: Failed to fetch.   layout-8d2591f120f8aae0.js:1

🔴 ▶ [2023-07-20T07:27:22.822Z] Error: Failed to complete negotiation with the server: TypeError: Failed to fetch   125-e8c9fd7c189d90ad.js:1

🔴 ▶ [2023-07-20T07:27:22.823Z] Error: Failed to start the connection: Error: Failed to complete negotiation with the server: TypeError: Failed to fetch   125-e8c9fd7c189d90ad.js:1

```
Error: Failed to complete negotiation with the server: TypeError: Failed to fetch        layout-8d2591f120f8aae0.js:1
    at X._getNegotiationResponse (layout-8d2591f120f8aae0.js:1:26644)
    at async X._startInternal (layout-8d2591f120f8aae0.js:1:24688)
    at async X.start (layout-8d2591f120f8aae0.js:1:22583)
    at async et._startInternal (layout-8d2591f120f8aae0.js:1:37076)
    at async et._startWithStateTransitions (layout-8d2591f120f8aae0.js:1:36499)
```

>

🚗 **Carsties Auctions**

Search for cars by make, model or color 🔍

Login

FILTER BY 🔥 Live Auctions ▦ Ending < 6 hours ⏱ Completed

ORDER BY ↕ Alphabetical 🕐 End date ⬤ Recently added

PAGE SIZE 4 8 12

No bids   No bids   No bids   No bids

Elements   **Console**   Sources   Network   Performance   Memory   Application   Security   Lighthouse   Recorder ⏺   Performance insights ⏺   ⬢ Components   ⬢ Profiler   ⊗ 3 ⚠ 1 💬 2   ⚙   ⋮   ✕

⊟ �⊘ | top ▾ | 👁 | Filter   Default levels ▾   2 Issues: 💬 2   ⚙

⊗ Failed to load resource: net::ERR_CERT_AUTHORITY_INVALID   api.carsties.store/n_egotiateVersion=1:1 ⊛

⚠ ▶ [2023-07-20T11:22:31.667Z] Warning: Error from HTTP request. TypeError: Failed to fetch.   layout-6805bb53b46af676.js:1

⊗ ▶ [2023-07-20T11:22:31.667Z] Error: Failed to complete negotiation with the server: TypeError: Failed to fetch   125-e8c9fd7c189d90ad.js:1

⊗ ▶ [2023-07-20T11:22:31.667Z] Error: Failed to start the connection: Error: Failed to complete negotiation with the server: TypeError: Failed to fetch   125-e8c9fd7c189d90ad.js:1

  Error: Failed to complete negotiation with the server: TypeError: Failed to fetch   layout-6805bb53b46af676.js:1
      at X._getNegotiationResponse (layout-6805bb53b46af676.js:1:26644)
      at async X._startInternal (layout-6805bb53b46af676.js:1:24688)
      at async X.start (layout-6805bb53b46af676.js:1:22583)
      at async et._startInternal (layout-6805bb53b46af676.js:1:37076)
      at async et._startWithStateTransitions (layout-6805bb53b46af676.js:1:36499)

>

Search by resource name or public IP (Cmd+B)

Create ∨

My Team
Estimated costs: $0.00

PROJECTS ∧

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Add-Ons

LOAD BALANCERS (1)

◆ ⬡ af9a6501e0b0547dca38a0415321...   146.190.6.158   1/2   —   ...

DROPLETS (1)

● 💧 docker-ubuntu-s-1vcpu-1gb-sgp1-01   157.245.192.65   🐳 Get started   +☁ +💧 ...

DOMAINS (1)

carsties.store   2 A / 2 CNAME / 3 NS / 1 SOA   ...

CLUSTERS (1)

● ✳ carsties   2 days ago   k8s +1   ...
      SGP1 / Kubernetes on 1.27.2-do.0

                                                                                            View Nodes

                                                                                            Settings

Create something new   Edit Tags

📋 **Create a Managed Database**   ⬤ **Start using Spaces**   **Product Docs**   Move to...
   Worry-free database management   Deliver data with scalable object storage   Technical overviews, how-tos, re
                                                                               support material   Destroy

Build on what you have   **Tutorials**
                                                                                    DevOps and development guidelines
📦 **Add a disk to your Droplet**   💧 **Take a snapshot**
   Create a block storage volume   Make on-demand copies of Droplets   **API & CLI Docs**
                                                                                    Run your resources programmatically

Destroy cluster

Destroying a Kubernetes cluster is permanent. This will destroy the cluster and all worker nodes.

LOAD BALANCERS

☑ Destroy All	1/1

VOLUMES

☑ Destroy All	3/3

Confirm you want to permanently destroy this Kubernetes cluster by entering its name below.

carsties

Cluster name*

Enter cluster name

⬡ **Input must match cluster name**

Cancel   **Destroy**