

WHAT IS PORTAINER

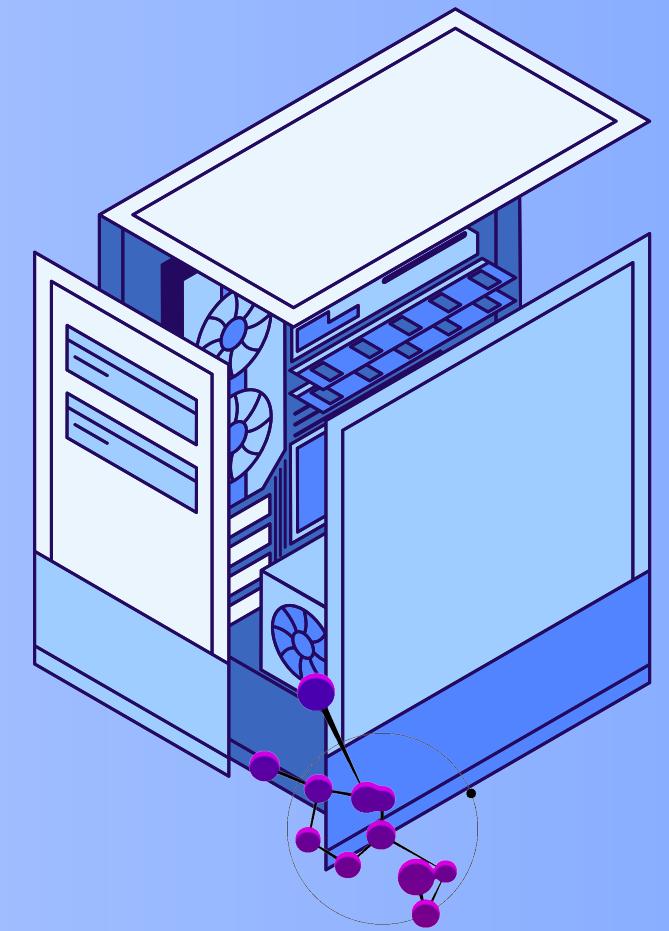
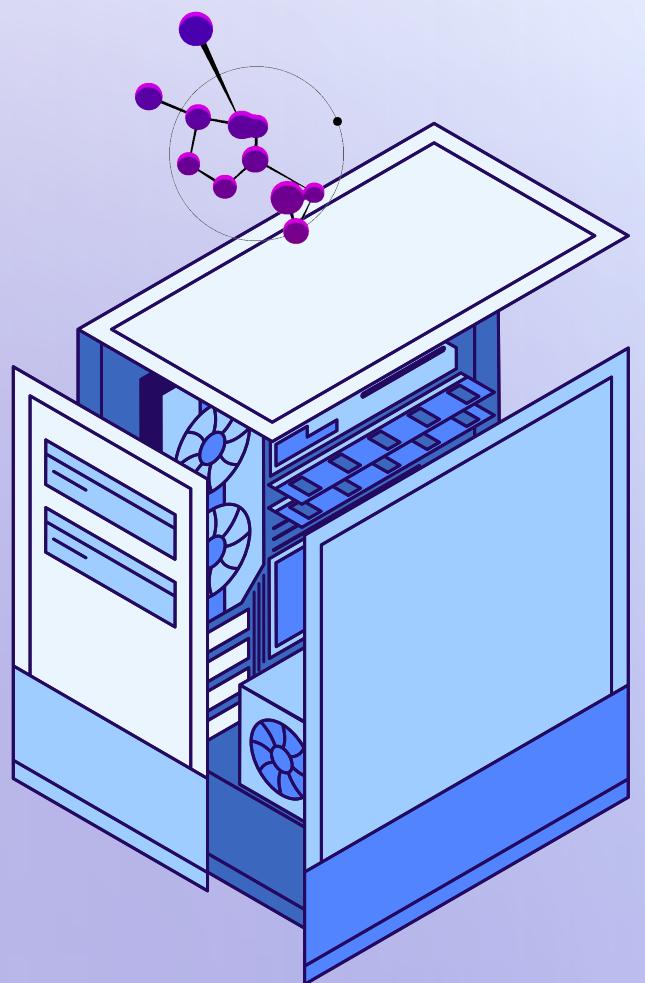


Present by: Pele



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OVERVIEW

Portainer is a universal container management tool that can work with both Docker and Kubernetes to make the deployment and management of containerized applications and services easier and more efficient. Portainer enjoys over 650,000 users and 21,700 GitHub stars, so it's widely used and popular. Portainer comes in two versions: Community Edition (CE) and Business Edition (BE).

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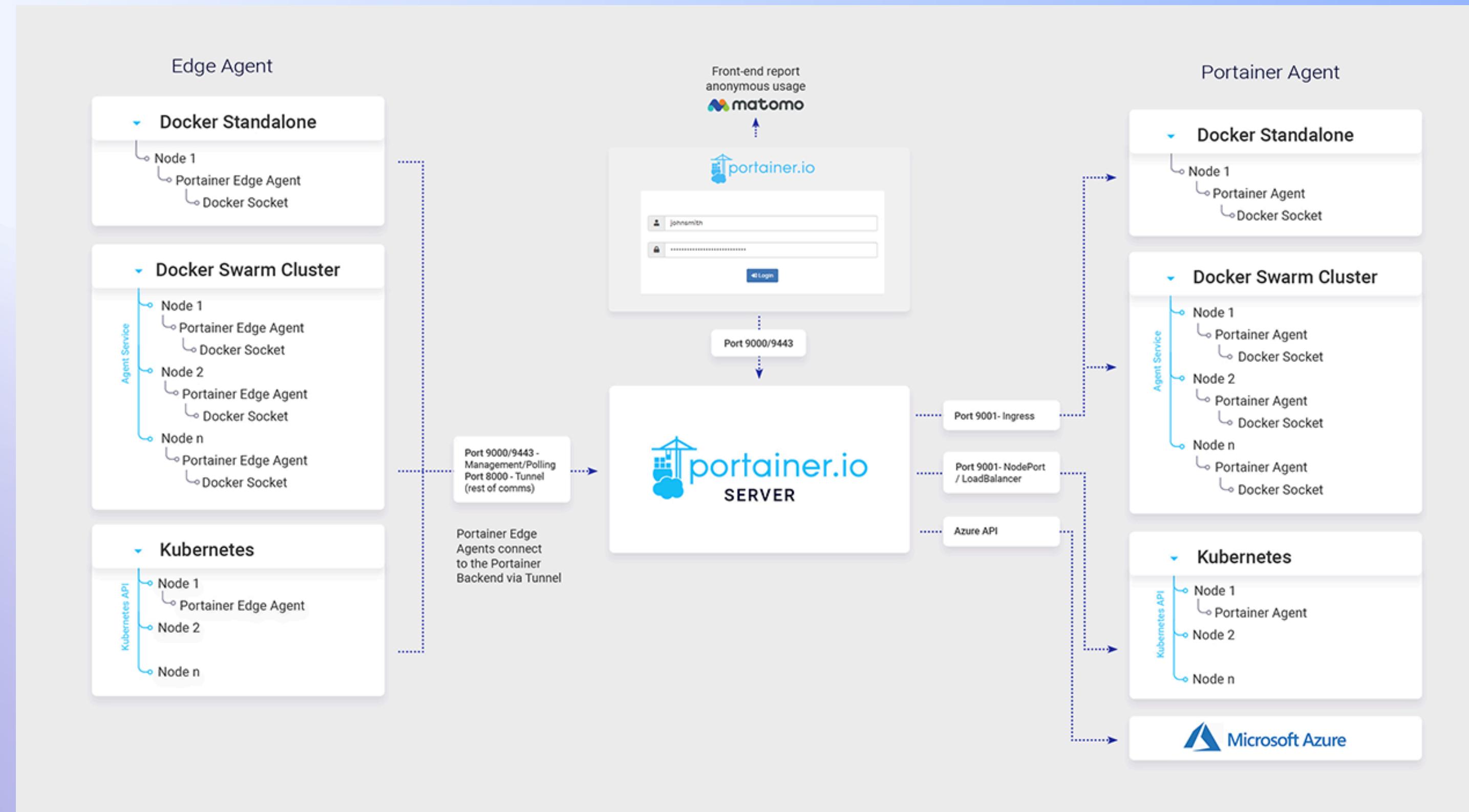
Portainer is the most widely used container management platform. DevOps engineers characterize Portainer as a straightforward Docker management interface. Portainer is an open-source, lightweight container management UI that allows you to effortlessly manage your Docker system. Managing Docker has never been easier, and Portainer is available for Windows, Linux, and Mac OS. Portainer alternatives include Azure Container Registry, Rancher, and Docker Swarm. Portainer, which was founded in 2017 in New Zealand, has a web GUI of 9000. Portainer is a robust open source management suite that allows you to effortlessly construct, manage, and maintain Docker production environments. It was created to help customers adopt Docker container technology and shorten time to market. Portainer supports Docker Swarm and Kubernetes-based cluster management.



PORTAINER ARCHITECTURE

Portainer consists of two elements: the Portainer Server and the Portainer Agent. Both run as lightweight containers on your existing containerized infrastructure. The Portainer Agent should be deployed to each node in your cluster and configured to report back to the Portainer Server container.





INSTALLATION

1. Install virtual machine(VMware).
2. Install ubuntu server or ubuntu desktop.
3. Install docker engine in ubuntu.
4. Install portainer community Edition(CE) in ubuntu command:
 - docker volume create portainer_data
 - docker run -d -p 8000:8000 -p 9443:9443 --name portainer --restart=always -v /var/run/docker.sock:/var/run/docker.sock -v portainer_data:/data portainer/portainer-ce:latest

```
pele@ns1:~/Desktop$ docker volume create portainer_data
```



```
pele@ns1:~/Desktop$ docker run -d -p 8000:8000 -p 9443:9443 --name portainer --restart=always -v /var/run/docker.sock:/var/run/docker.sock -v portainer_data:/data portainer/portainer-ce:latest
```

5. check portainer installed.

```
pele@ns1:~/Desktop$ sudo docker ps
[sudo] password for pele:
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
ATUS                NAMES
17cf3c1344fe      portainer/portainer-ce:latest   "/portainer"       47 hours ago      Up 20 minutes
          0.0.0.0:8000->8000/tcp, :::8000->8000/tcp, 0.0.0.0:9443->9443/tcp
          , :::9443->9443/tcp, 9000/tcp    portainer
```

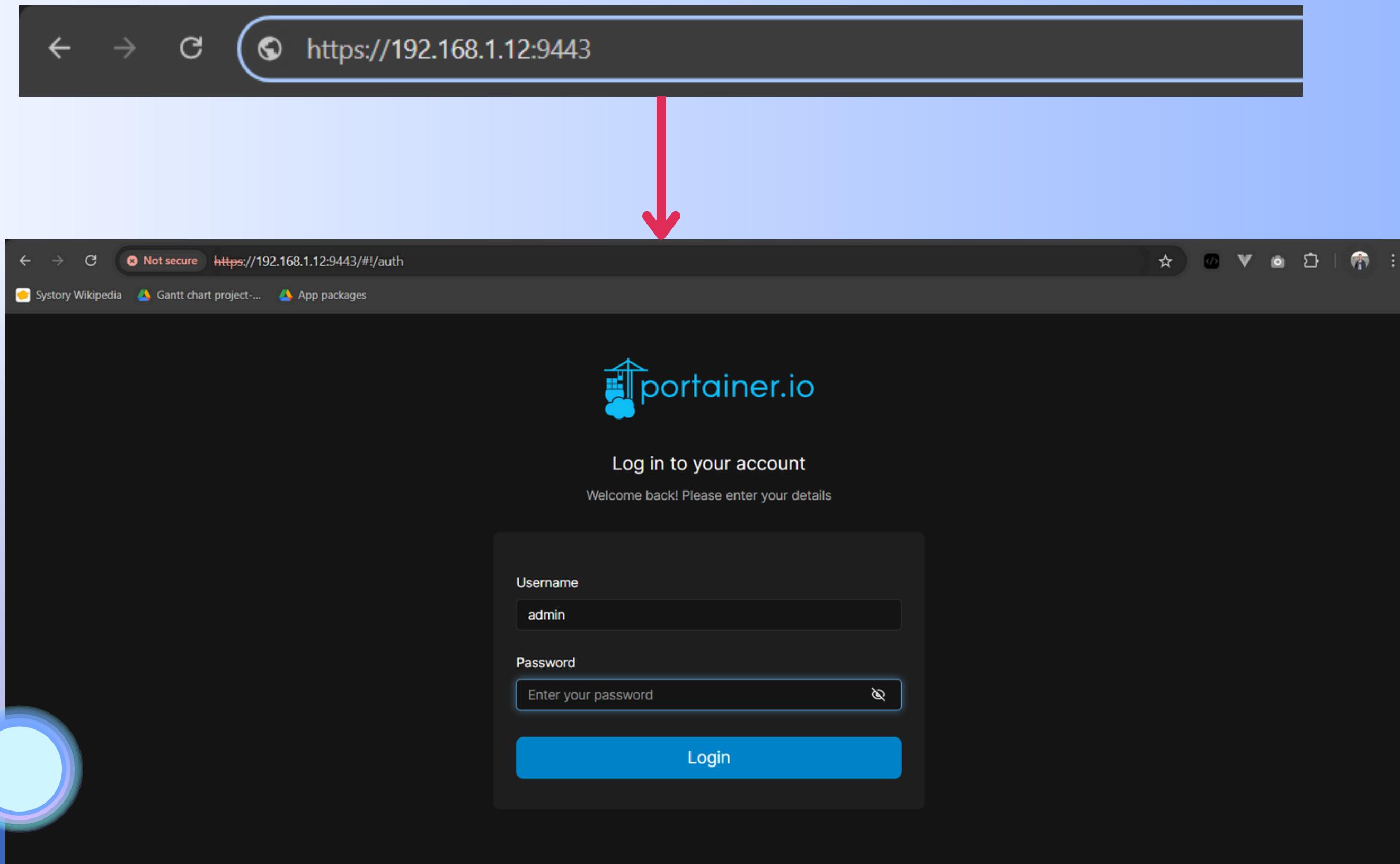
Reference from docs.portainer.io (August 2024)

HOW TO USE

1. Run ubuntu in virtual machine(VMware)
2. Check that the window can connect to the Ubuntu server using the window command.
192.168.1.12 is ubuntu server ip

```
C:\Users\Advice_KKIT>ping 192.168.1.12  
  
Pinging 192.168.1.12 with 32 bytes of data:  
Reply from 192.168.1.12: bytes=32 time=1ms TTL=64  
Reply from 192.168.1.12: bytes=32 time=2ms TTL=64  
Reply from 192.168.1.12: bytes=32 time<1ms TTL=64  
Reply from 192.168.1.12: bytes=32 time<1ms TTL=64  
  
Ping statistics for 192.168.1.12:  
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
    Approximate round trip times in milli-seconds:  
        Minimum = 0ms, Maximum = 2ms, Average = 0ms
```

3. Open browser and go to " https://ubuntu server ip:9443 " (9443 is port for portainer server)
ex: "https://192.168.1.12:9443"



4. Login to portainer

The screenshot shows the Portainer.io Home page. At the top, there is a banner for "Latest News From Portainer" about version 2.20.3 STS. Below the banner, the "Environments" section displays the "local" environment. The environment status is "Up" (green), last updated on 2024-08-08 at 22:49:21, and it is a "Standalone" instance running on port 27.1.1. It is connected to "/var/run/docker.sock". The environment has no stacks, 3 containers (1 green, 2 orange, 0 red, 0 yellow), 1 volume, 4 images, 2 CPU, and 2 GB RAM. A "Connected" button is visible. The sidebar on the left includes links for Home, Dashboard, App Templates, Stacks, Containers, Images, Networks, Volumes, Events, Host, and Settings. The footer indicates Portainer.io Community Edition 2.19.5.





EXAMPLE

SUMMARIZE

PORTAINER MAKES IT CONSIDERABLY EASIER

- Deploy and manage containers.
- Deploy and manage full-stack applications.
- Create and manage networks.
- Create and manage volumes.
- Create and manage templates.
- Create and manage services.
- Create and manage secrets.
- Create and manage environment variables.
- Create and manage configs (for non-sensitive information).
- Pull and manage images from various repositories.
- Manage users.
- Create and manage environments.



THANK YOU!



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