

**BUT 2**

**Docker en pratique : cours 5**

**Portainer**

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# Interface web

- WebUI open source pour créer, modifier, redémarrer, surveiller... des conteneurs Docker.
- Interconnecter plusieurs serveurs utilisant Docker (via Portainer Agent), afin de contrôler/surveiller les conteneurs répartis sur plusieurs serveurs depuis la même interface et cela très simplement.

# Installation de Portainer

Il faut créer un volume pour sauvegarder les données de portainer

```
docker volume create portainer_data
```

Lancement de portainer

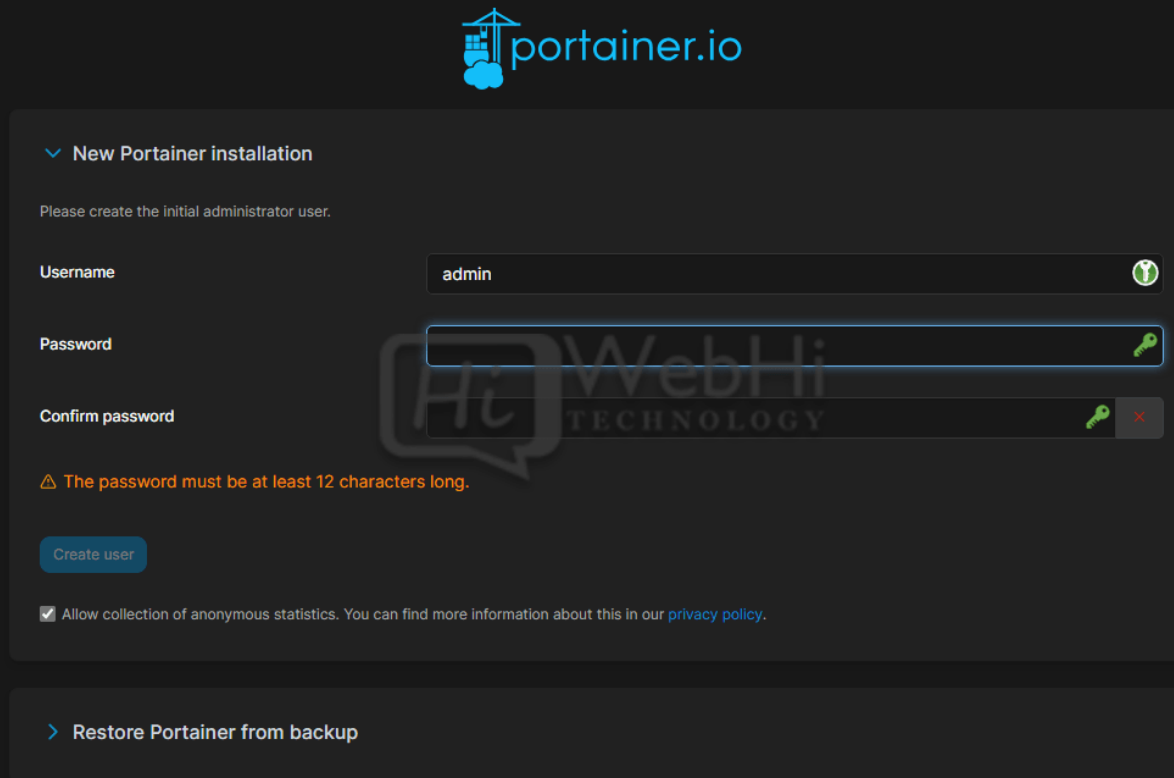
```
docker run -d -p 9000:9000 --name portainer --restart=always -v  
/var/run/docker.sock:/var/run/docker.sock -v portainer_data:/data  
portainer/portainer-ce:latest
```

## version docker-compose

```
version: '3.8'
services:
  portainer:
    image: portainer/portainer-ce:latest
    ports:
      - 9000:9000
    volumes:
      - /var/run/docker.sock:/var/run/docker.sock
      - portainer_data:/data
    restart: always
volumes:
  portainer_data:
```

# Configuration

Lancer Portainer à l'adresse <http://localhost:9000> et créer un compte admin



The screenshot shows the Portainer.io web interface for a new installation. At the top, the Portainer.io logo is displayed. Below it, a section titled "New Portainer installation" is expanded, showing a form to create an initial administrator user. The form includes fields for "Username" (pre-filled with "admin"), "Password", and "Confirm password". A warning message states: "The password must be at least 12 characters long." A "Create user" button is visible. At the bottom, there is a checkbox for "Allow collection of anonymous statistics" and a link to the "privacy policy". A button labeled "> Restore Portainer from backup" is also present.

portainer.io

✓ New Portainer installation

Please create the initial administrator user.

Username

Password

Confirm password

⚠ The password must be at least 12 characters long.

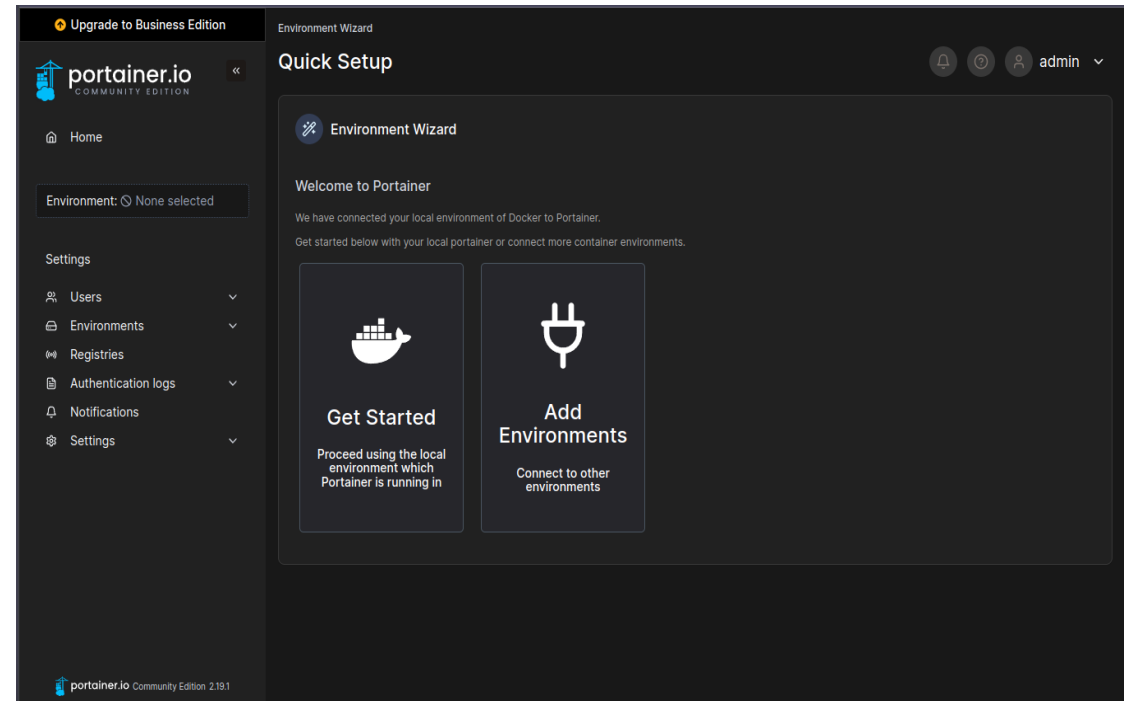
Create user

☒ Allow collection of anonymous statistics. You can find more information about this in our [privacy policy](#).

> Restore Portainer from backup

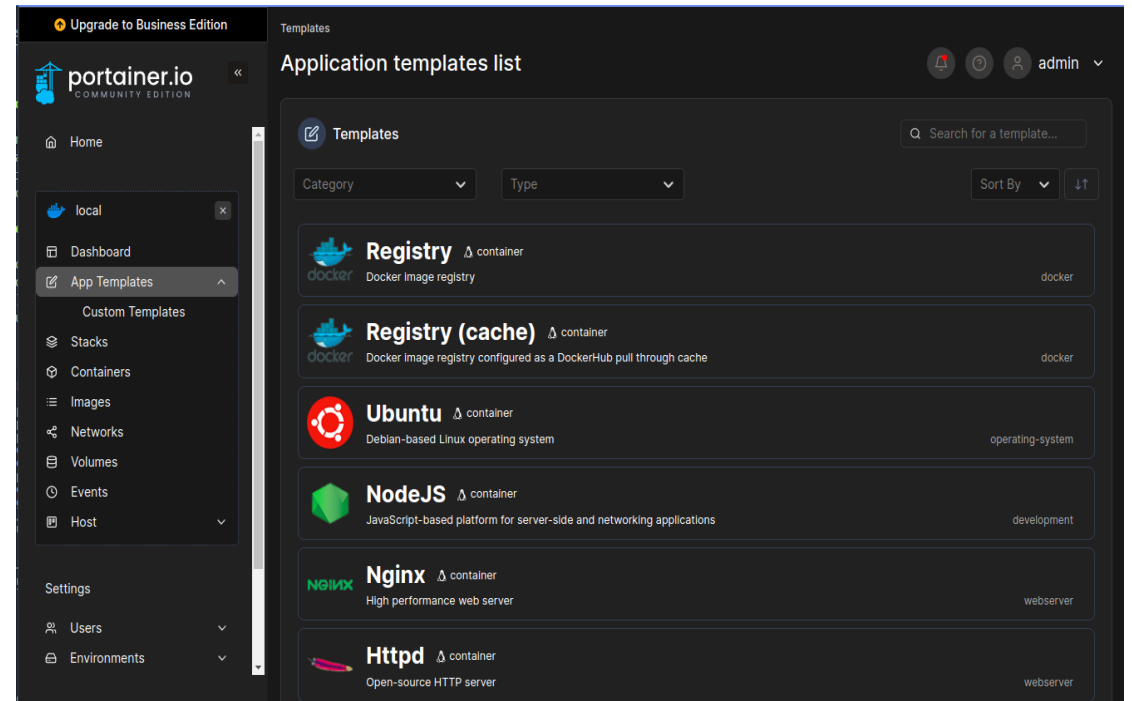
# Environnements

- Aucun environnement par défaut (local à choisir la première fois)
- Détecte docker sur lequel il est installé
- Centraliser l'administration de plusieurs serveurs de conteneurs Docker sur un seul point



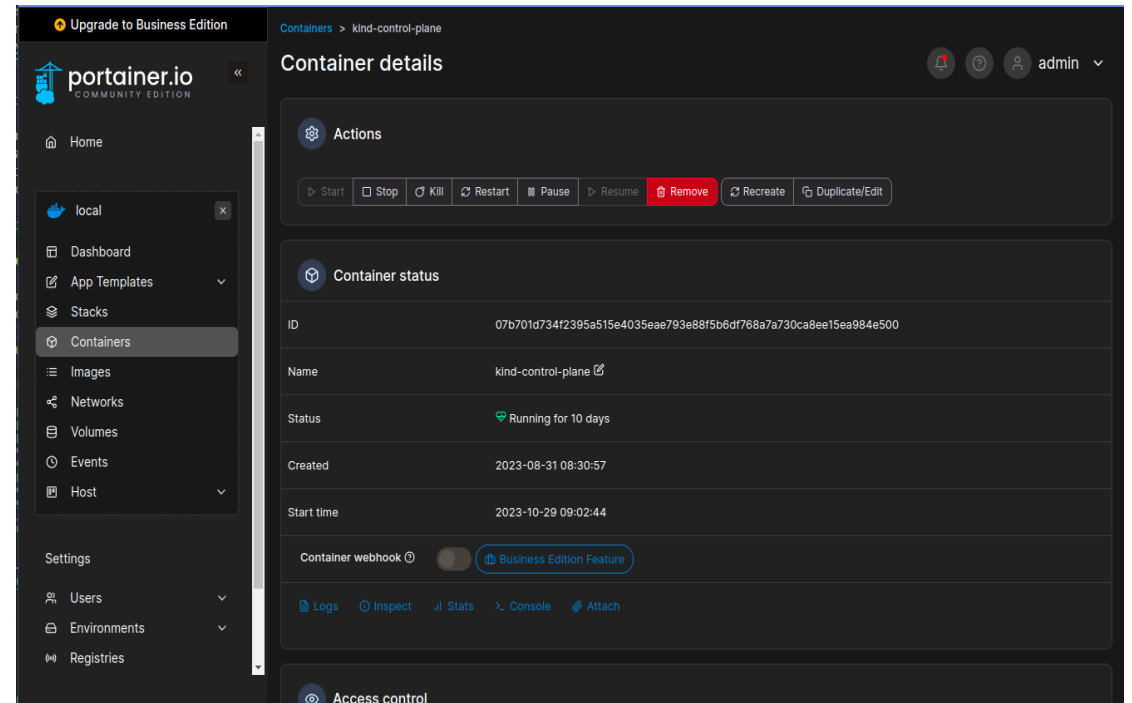
# Catalogue d'applications (templates)

- Recherche de templates prédéfinis
- Création d'un template personnalisé
- Personnalisation de la configuration
- crée un conteneur fonctionnel en quelques instants



# Surveillance de l'état des conteneurs

- Vue d'ensemble complète de l'état de vos conteneurs
- Surveillance en temps réel de l'utilisation des ressources, des journaux (logs) et des statistiques de performance
- Action sur le conteneur (Start, Stop, Pause, Restart, ...)





# Gestion des volumes et des réseaux

Via l'interface :

- créer et gérer des volumes Docker pour stocker des données persistantes
- créer et gérer des réseaux pour connecter vos conteneurs

# Gestion des stacks

- Portainer nomme les Compose de Docker en stack.
- Une stack est donc une collection de services interconnectées qui fonctionnent ensemble pour prendre en charge une application.
- Les stacks sont généralement définies à l'aide de fichiers de configuration, tels que des fichiers Docker-Compose.

# Création d'un stack

portainer.io COMMUNITY EDITION

Stacks > Add stack

## Create stack

james

Name: e.g. mystack

This stack will be deployed using `docker compose`.

Build method

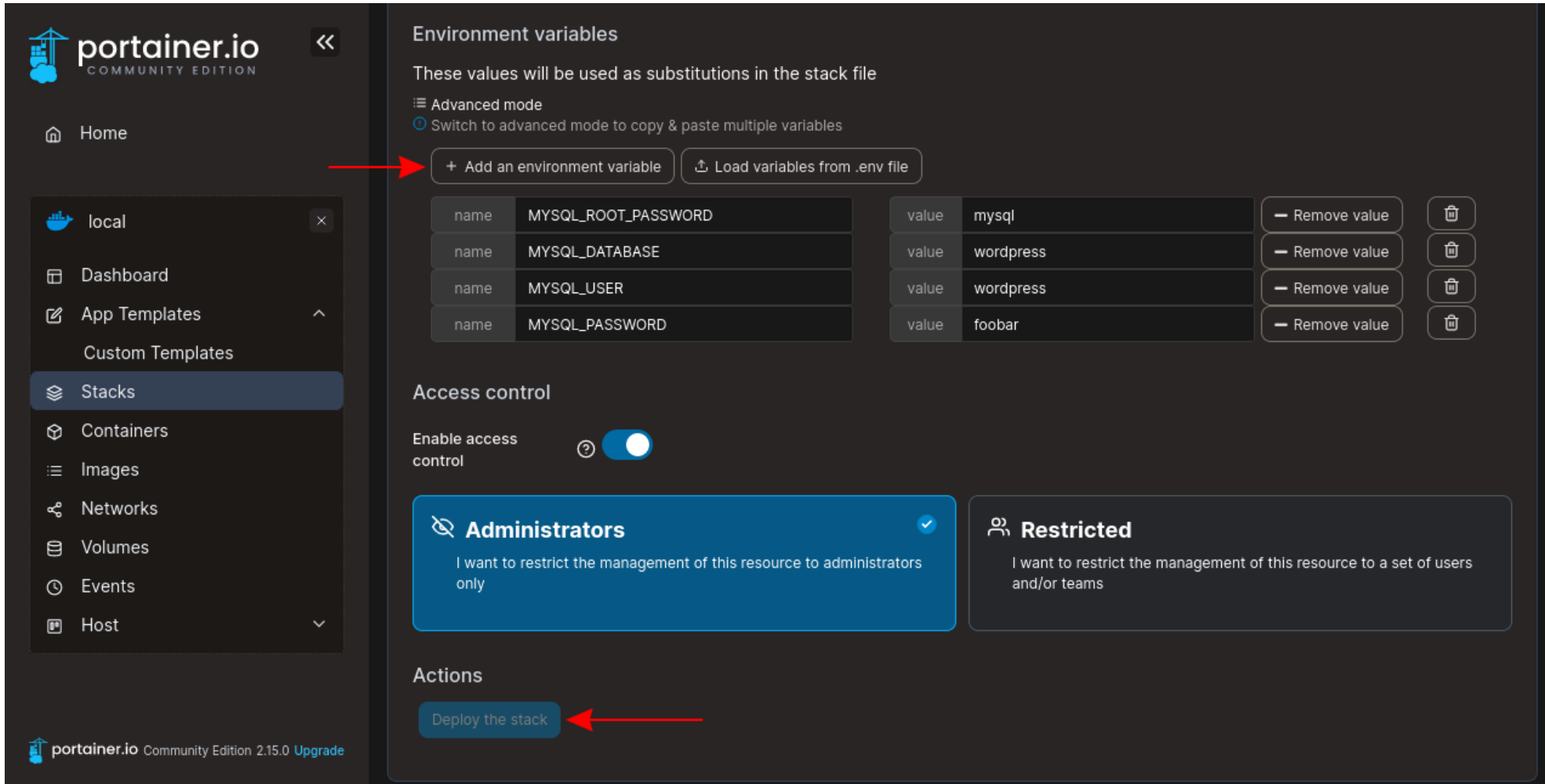
- Web editor** (selected): Use our Web editor
- Upload: Upload from your computer
- Repository: Use a git repository
- Custom template: Use a custom template

Web editor

You can get more information about Compose file format in the [official documentation](#).

```
1 services:
2   db:
3     image: mysql:8.0
4     environment:
5       - MYSQL_ROOT_PASSWORD=${MYSQL_ROOT_PASSWORD}
6       - MYSQL_DATABASE=${MYSQL_DATABASE}
7       - MYSQL_USER=${MYSQL_USER}
8       - MYSQL_PASSWORD=${MYSQL_PASSWORD}
9   volumes:
```

# Ajout des variables d'environnement et déploiement




The screenshot displays the Portainer.io Community Edition interface. On the left is a sidebar with navigation links: Home, local, Dashboard, App Templates, Custom Templates, Stacks (highlighted), Containers, Images, Networks, Volumes, Events, and Host. The main panel is titled 'Environment variables' and includes a sub-header 'These values will be used as substitutions in the stack file'. Below this, there's a toggle for 'Advanced mode' and a link to 'Switch to advanced mode to copy & paste multiple variables'. Two buttons are present: '+ Add an environment variable' (pointed to by a red arrow) and 'Load variables from .env file'. A table lists four environment variables:

name	value	Remove value	Trash
MYSQL_ROOT_PASSWORD	mysql	Remove value	Trash
MYSQL_DATABASE	wordpress	Remove value	Trash
MYSQL_USER	wordpress	Remove value	Trash
MYSQL_PASSWORD	foobar	Remove value	Trash

Below the table is the 'Access control' section, which has a toggle for 'Enable access control' (turned on). It features two options: 'Administrators' (selected with a checkmark) and 'Restricted'. The 'Administrators' option states 'I want to restrict the management of this resource to administrators only', while the 'Restricted' option states 'I want to restrict the management of this resource to a set of users and/or teams'. At the bottom, the 'Actions' section contains a 'Deploy the stack' button (pointed to by a red arrow).

portainer.io Community Edition 2.15.0 Upgrade

# Liste des stacks



COMMUNITY EDITION

<<

Home

local

Dashboard

App Templates

Custom Templates

**Stacks**

Containers


Images

Networks

Volumes

Events

Host



Community Edition 2.15.0

Upgrade

Stack details

wordpress 

Stop this stack

Delete this stack

Create template from stack

Stack duplication / migration

This feature allows you to duplicate or migrate this stack.

Stack name (optional for migration)

Select an environment

Migrate

Duplicate

Containers

Search...

Start

Stop

Kill

Restart

Pause

Resume

Remove

<input type="checkbox"/>	Name ↓↑	State ↓↑	Filter	Quick Actions	Stack ↓↑	Image ↓↑	Created ↓↑	IP Address ↓↑	GPUs
<input type="checkbox"/>	wordpress-db-1	running		<div></div> <div></div> <div></div> <div></div> <div></div>	wordpress	mysql:8.0	2022-09-07 21:25:54	172.18.0.2	none
<input type="checkbox"/>	wordpress-wordpress-1	running		<div></div> <div></div> <div></div> <div></div> <div></div>	wordpress	wordpress:latest	2022-09-07 21:25:54	172.18.0.3	none

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