How to Manage Docker Containers using Portainer on Ubuntu

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Portainer is an open-source management UI for Docker, including Docker Swarm environment. Portainer makes it easier for you to manage your Docker containers, it allows you to manage containers, images, networks, and volumes from the web-based Portainer dashboard.

In this tutorial, I will show you step-by-step how to install and configure Portainer on Ubuntu 16.04 LTS. We will install and configure Portainer, deploy the Apps Container, Manage Container, images, network, and volumes for our Docker environment.

Prerequisites

- Ubuntu Server
- Root privileges

What we will do

- 1. Install Docker on Ubuntu
- 2. Install and Configure Portainer
- 3. Deploy Ghost Blog App Container
- 4. Docker Environment Management

Step 1 - Install Docker on uServer

Update & Upgrade sudo apt update && sudo apt upgrade -y;

Install docker sudo apt install docker.io docker-compose -y;

Add user to docker group

sudo usermod -aG docker cvandemberg; sudo usermod -aG docker is_derayo;

Start & Enable docker

sudo systemctl start docker; sudo systemctl enable docker; systemctl status docker.service;

systemctl list-unit-files | grep docker; sudo docker ps -a

Goto :Step 1.b

If start fails:

sudo systemctl unmask docker.service; sudo systemctl unmask docker.socket; sudo systemctl start docker.service;

systemctl list-unit-files | grep docker;

sudo docker ps -a;

}

Error starting daemon: error initializing graphdriver: /var/lib/docker contains several valid graphdrive

sudo touch /etc/docker/daemon.json
sudo vim /etc/docker/daemon.json
{
 "storage-driver": "overlay"
}
 # root@uServerOffice /etc/docker :
 \$ cat /etc/docker/daemon.json
{
 "storage-driver": "overlay"

Check docker's status: systemctl status docker.service;

:Step 1 .b Docker installed on ubuntu 16.04 server, check it using the command below. sudo docker version;



Step 2 - Install and Configure Portainer

Portainer can be installed as a docker container like in this case and standalone without docker container. Before installing Portainer, download the Portainer image from the DockerHub.

sudo docker pull portainer/portainer;

root@hakase-labs:~#
root@hakase-labs:~# docker pull portainer/portainer
Using default tag: latest
latest: Pulling from portainer/portainer
d1e017099d17: Pull complete
84edb4fad689: Pull complete
Digest: sha256:c7d065f721266e24342f1b2d6fa6e5b451a0057f55df1a62dbf4d4513b629c8d
Status: Downloaded newer image for portainer/portainer:latest
root@hakase-labs:~#
root@hakase-labs:~#

Now run Portainer using the simple docker command below

sudo docker volume create portainer_data;

sudo docker run -d -p 9000:9000 --restart always --name portainer -v \ /var/run/docker.sock:/var/run/docker.sock -v portainer_data:/data portainer/portainer;

Portainer is now running as a container, check it using the docker ps command

sudo docker ps; sudo docker ps -a;

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0d11120eddcd0d7d	1374a593c0390062efc379aea	1986646ab1acc43e24	1001723			
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Portainer is now running as a Docker container with the name 'elatted_hopper', and it's running under port 9000. Next, we will configure the Admin password for the Portainer. Open your web browser and type the server IP address with port 9000. <u>http://192.168.1.100:9000/</u> <u>http://192.168.122.240:9000/</u>

You will get the page about the admin user and password configuration.

	a portainer.io		
	•		
Please create the initial admini	abrator user.		
Usemame	admin		
Password			
Confirm password		*	
The password must be at lea	est 8 characters long		
& Create user			

Type your strong admin password and click the 'Create user' button.

Now we need to define which environment Portainer will connect. Portainer offers support for standalone Docker environment, Docker Swarm, and Swarm mode.

For this guide, we will configure Portainer to connect to the local Docker environment.

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porta	iner.io	
Connect Portainer to the Docker environment you want to m	anaga. 🖋 Remote	
Manage the Docker and/comment where Portainer is running	Manage a remote Docker environment	
Therefore a sector and the sector an	nnet to the local Docker emilijonnent,	

Choose the 'Local' environment and click 'Connect' button.

And now you will see the Portainer Admin Dashboard.

portainer.io		Home		🕈 Help	support portainer @ admi
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		Volumes		Networks	

Portainer has been installed as a Docker Container on Ubuntu 16.04.

Step 3 - Deploy New App Container

After the Portianer installation, we will run the Application Container using Portainer.

Click the 'App Template' menu.

Now choose the application that you want to install. For this guide, we will install the 'Ghost' blog as a Docker Container.

C @ 192.168.33.10.90	00/#;hemplates	T 🗢 👄 🗡
🗊 portainer.io 😅	Solf* Solr Open-source enterprise search platform	ð search-engine
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Krighte BE Kolltainer Settings User management 😫	WebOps platform and hosting control panel	CHS
Endpoints # Registries E	WordPress A free and open-source CMS	0 CMS
antunga et	Joomla Journal Another free and open-source CMS	ð cxes
	Drupal	ð cws
	Plone	5
Container lo UKA	Pione A free and open-source CMS built on top of Zope	CMS

Click 'Ghost'.

Type the container name ghost-blog and **click** the **'Show advanced options'**. On the 'Port mapping' configuration, type **port 82** on the 'host'.

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portainer.io		Name		ghost-bit	~g											
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Now click 'Deploy the container' button.

And when it's complete, you will get the container page as below.

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venta Ingine DETAINER SETTINGS Iser management, Indpointa legistries ettings								8	ems per page 10 1

Ghost is now installed as a Docker Container and it's using port 82 on the host.

Open your web browser and type the server IP address.

http://192.168.1.100:82

http://192.168.122.240:82

And you will get the 'Ghost' blog homepage as below.



Step 4 - Manage Docker Environment Using Portainer

In this step, we will configure Docker Environments such as Docker images, Container, Volumes, and Networks.

Manage Containers

Portainer provides a simple and easy way to use management for Docker Containers.

Click the 'Containers' menu on the left and you will get the page as below.

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portainer.io	11	Container list Containers						♥ Help support p	ortainer @admin Amazandi *362ad	
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We can start, stop, restart, create a new container, access the shell of the container, see the container log, and stats of the container from this Portainer container management.

Shell of the Ghost container:

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portainer.io		Container console Help support portainer Container Help support portainer Amy accent Help
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venta		root 82 0.0 0.2 17504 2076 7 R+ 07:00 0:00 ps -sux
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Ghost container logs:

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	1.00	[2018-03-21 06:18:33] INFO Finished database migration?			
iser management		[2018-03-21 06:18:32] WARN Theme's file locales/en.json not found. [2018-03-21 06:18:32] 10/0 Chest is running in production			
Indpoints		[2018-03-21 06:18:37] INFO Your blog is now available on http://localhost:2368/			
legistries		[2018-03-21 06:18:37] INFO Ctrl+C to shut down [2018-03-21 06:18:37] INFO Christ boot 3.831s			
lettings		DN/D [2018-03-21 06(18/39) "C(T /" 200 504H5			
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The container stats:

portainer.io	11	Container	statistics						Help support portai	ner @ admin
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		root	4239	4224	0	15.10	pta/T	00.00.00	bash	

Manage Docker Images

Click the 'Images' menu and you will get the page as below.

portainer.io		Image list C			• 14	Np support portainer	admin
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						rearry bar bag	10.1

Now we can see the list of docker images on our system, and we can create manually a new docker image, or pull/download new images from the DockerHub repository.

Manage Networks

From this menu, we create new custom networks for our Docker environment. Click the 'Networks' menu.

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portainer.io	2	Network list C						Help support	Portainer & admin	
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Dashboard App Templates Containers	÷	Name ()	Add netwo Stack	Scope	Driver	IPAM Driver	IPAM Subnet	IPAM Cateway	Ownership	
Images		D bridge		local	bridge	default	172.17.0.0/16		* public	
Networks	4	D host		local	host	default	-		· public	
Volumes Events	40 5		*	local	nul	default			public	
Engine PORTAINER SETTINGS								Re.	ms per page 10 1	
User management.										
Registries	- 21									
Settings										
portainer.io UK										

Manage Volumes

This menu provides an easy way to create new custom volumes for our container.

We just need to create new custom volumes, and when we want to create new container the application, just attach it to the container through the 'Advanced options' menu.

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Installation and configuration of the Portainer Docker Management UI on Ubuntu 16.04 has been completed successfully.