Deploiment Docker

GNU nano 7.2 Acquire::http::proxy "http://192.168.104.3:3128/";

/etc/apt/apt.conf

Preparation de machine

root@Docker-SSII:~# sudo apt update && sudo apt install gnupg -y Hit:1 http://security.debian.org bookworm-security InRelease Hit:2 http://deb.debian.org/debian bookworm InRelease Hit:3 http://deb.debian.org/debian bookworm-updates InRelease Reading package lists... Done Building dependency tree Done

Installer Docker

root@Docker-SSII:~# apt install curl Reading package lists... Done Building dependency tree... Done Reading state information ... Done

Compose

root@Docker-SSII:~# curl -fsSL https://download.docker.com/linux/debian/gpg | sudo gp g --dearmor -o /usr/share/keyrings/docker-archive-keyring.gpg root@Docker-SSII:~#

Ajoute la clé GPG officielle de Docker pour sécuriser l'installation :

le dépôt Docker

root@Docker-SSII:~# echo "deb [arch=\$(dpkg --print-architecture) signed-by=/usr/share
/keyrings/docker-archive-keyring.gpg] https://download.docker.com/linux/debian \$(lsb_
release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
root@Docker-SSII:~#

root@Docker-SSII:~# sudo apt install docker-ce docker-ce-cli containerd.io -y
Re#root@Docker-SSII:~# sudo apt update && sudo apt install lsb-release -y
BuiHit:1 http://deb.debian.org/debian bookworm InRelease
Re#Hit:2 http://security.debian.org bookworm-security InRelease
Hit:3 http://deb.debian.org/debian bookworm-updates InRelease
rocReading package lists... Done
root@Docker-SSII:~# sudo systemct1 enable docker
Synchronizing state of docker.service with SysV service script with /lib/systemd/syst
emd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable docker
root@Docker-SSII:~#

Créer le fichier de configuration du proxy

root@Docker-SSII:~# sudo mkdir -p /etc/systemd/system/docker.service.d root@Docker-SSII:~#
GNU nano 7.2 /etc/systemd/system/docker.service.d/http-proxy.conf
[Service]
Environment="HTTP PROXY=http://192.168.104.3:3128/"
Environment="HTTPS PROXY=http://192.168.104.3:3128/"
Environment="NO PROXY=localhost, 127.0.0.1"

GNU nano 7.2	/etc/resolv.conf
# BEGIN PVE	
search elev3	
nameserver 192.168.104.253	
nameserver 192.168.104.254	
nameserver 8.8.8.8	
# END PVE	

root@Docker-SSII:~# sudo systemctl daemon-reload root@Docker-SSII:~# sudo systemctl restart docker root@Docker-SSII:~#

Parfait, tout fonctionne !

Installer Portainer (interface graphique pour Docker) avec :

```
root@Docker-SSII:~# 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
```

Ouvre ton navigateur :https://192.168.62.121:9443

Identifiant : admin : zafarbtssio007@



root@Docker-SS	II:~# docker ps			
CONTATNED TO	TMACE	COMMAN		amywria
CONTRINER ID	IMAGE	COMMA	CREATED	SIAIOS
PORTS				
	NAMES			
d118b468fc0c	portainer/portain	ner-ce:latest "/port	tainer" 3 minutes	ago Up 3 mi
nutes 0.0.0.	0:8000->8000/tcp,	[::]:8000->8000/tcp,	0.0.0.0:9443->9443	/tcp, [::]:944
3->9443/tcp, 9	0000/tcp portaine	er		
root@Docker-SS	SII:~#			

Prometheus + Grafana + Node Exporter

Objectif

- **Grafana** : Interface web pour visualiser les données.
- **Prometheus** : Collecte les métriques des serveurs.
- **Node Exporter** : Envoie les métriques système à Prometheus.
- (Facultatif) Blackbox Exporter : Pour superviser un réseau externe.

Crée un fichier docker-compose.yml :

```
GNU nano 7.2
                                    docker-compose.yml
version: '3.7'
services:
 prometheus:
   image: prom/prometheus:latest
    container name: prometheus
   restart: unless-stopped
   ports:
     - "9090:9090"
   volumes:
      - ./prometheus.yml:/etc/prometheus/prometheus.yml
    command:
     - "--config.file=/etc/prometheus/prometheus.yml"
 node exporter:
    image: prom/node-exporter:latest
    container name: node exporter
   restart: unless-stopped
   ports:
     - "9100:9100"
 grafana:
    image: grafana/grafana:latest
   container name: grafana
   restart: unless-stopped
   ports:
     - "3000:3000"
   volumes:
      - grafana-data:/var/lib/grafana
volumes:
 grafana-data:
```

Crée un fichier prometheus.yml dans le même dossier :



root@Docker-SSII:~/docker# docker compose up -d



compose.yml,on lance :

root@Docker-SSII:~/docker# docke	r compose up -d	
WARN[0000] /root/docker/docker-c	compose.yml: the attribute `vers	ion` is obsolete, it w
ill be ignored, please remove it	to avoid potential confusion	
[+] Running 26/26		
✓ node_exporter Pulled		
✓ 9fa9226be034 Pull complete		
✓ 1617e25568b2 Pull complete		
✓ 60a2ff285504 Pull complete		
🗸 grafana Pulled		
🗸 66a3d608f3fa Pull complete		
√ b1aef3685777 Pull complete		
✓ 4ccbda8be621 Pull complete		
√ b1297553a5ad Pull complete		
√ a7831deda8b6 Pull complete		
√ 6a05763a1f35 Pull complete		
√ ee9115344252 Pull complete		
√ 55b26e77bbee Pull complete		
√ e19370890b86 Pull complete		
✓ 48c6994f6952 Pull complete		
✓ prometheus Pulled		
√ b2d104eee733 Pull complete		
✓ 448ad452204b Pull complete		
✓ 6547672ecd7f Pull complete		
√ a3c8c1417d94 Pull complete		
✓ ffe0cdbcd9ba Pull complete		
✓ 9e81dc407c65 Pull complete		22.9s
✓ 1cc8183b9830 Pull complete		23.43
✓ 3b84d8789434 Pull complete		23.9s
✓ 8dd923415b9e Pull complete		24.33
✓ 5b41f3c98b42 Pull complete		24.9s
[+] Running 5/5		
V Network docker_default	Created	
Volume "docker_grafana-data"	Created	0.48
<pre> Container node_exporter</pre>	Started	
✓ Container grafana	Started	
V Container prometheus	Started	
root@Docker-SSII:~/docker#		

Accéder à

Grafana

http://192.168.62.121:3000 admin : admin



grat	fana	running	🗎 🛈 al 🚈 🥔	docker	grafana/grafana:latest	202
nod	e_exporter	running	🗎 🛈 al 🚈 🥔	docker	prom/node-exporter:latest	202
por	tainer	running	🖹 🛈 al ⊱ 🥔	-	portainer/portainer-ce:latest	202
proi	metheus	running	🖹 🛈 al ⊱ 🥔	docker	prom/prometheus:latest	202
	 graf nod por prot 	 grafana node_exporter portainer prometheus 	grafana running node_exporter running portainer running prometheus running	grafana running Image: Original >= low node_exporter running Image: Original >= low portainer running Image: Original >= low prometheus running Image: Original >= low	grafana running Image: Constraint of the second seco	grafana running B O → A > Ø docker grafana/grafana:latest node_exporter running B O → A > Ø docker prom/node-exporter:latest portainer running B O → A > Ø - portainer/portainer-ce:latest prometheus running B O → A > Ø docker prom/prometheus:latest

Ajouter Prometheus dans Grafana

Connecte-toi à Grafana.

Va dans **connexion** \rightarrow **Data Sources**.

Ajoute une **nouvelle source de données** :

- **Type**: Prometheus
- URL:http://prometheus:9090

Sauvegarde et teste la connexion.

ţl∳ Set	tings	器 Dasht	ooards								
	Configur Or skip th lata sour	e your Pron ne effort ar ces from (metheus data Id get Promet Grafana Labs	a source below theus (and Lok with the free-f	i) as fully-ma orever Grafar	naged, sca na Cloud pl	lable, an.	and ho	osted	×	
Name		promethe	us			Default					
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Name defore yo letailed it fields ma	© ou can us nstructio arked wit	promethe se the Pron ns, <u>view th</u> h * are req	us netheus data ne documenta uired	source, you m <u>ation</u> .	ust configure	e it below or	in th	e confi	g file. I	For	



Prometheus dans ton navigateur

← → C () & Non sécurisé 192.168.62.121:9090/graph?g0.expr= ¾ ☆	⊠ ±	© 1 ≡
Prometheus Alerts Graph Status Help		× C 🛛
□ Use local time □ Enable query history	highligh	ting
Enable linter		_
Q Expression (press Shift+Enter for newlines)		Execute
Table Graph		
< Evaluation time >		
No data queried yet		
		Remove Panel
Add Panel		

Ajouter un dashboard pour la supervision

Va dans **Dashboards** → **Import**.

Mets **"1860"** dans l'ID (Template officiel Node Exporter).

Associe-le à ta source **Prometheus**.

Finalement je laise tomber cette service car demande beaucoup de confige on va faire avec nagios+grafana

Nagios avec Grafana

On edit le fichier

```
GNU nano 7.2
version: '3'
                                  docker-compose.yml
services:
 nagios:
   image: jasonrivers/nagios:latest
   container name: nagios
   environment:
     - VIRTUAL_HOST=nagios.local
   ports:
     volumes:
     - nagios-data:/usr/local/nagios/etc
   networks:
     - nagios
 grafana:
   image: grafana/grafana:latest
   container name: grafana
   environment:
     GF_SECURITY_ADMIN_PASSWORD: admin
   ports:
   networks:
     - nagios
networks:
 nagios:
   driver: bridge
volumes:
 nagios-data:
```

root@Docker-SSII:~/docker# dock	er compose up -d
WARN[0000] /root/docker/docker-	compose.yml: the attribute `version` is obsolete, it w
ill be ignored, please remove i	t to avoid potential confusion
[+] Running 32/32	
✓ nagios Pulled	
✓ ff65ddf9395b Pull complete	
✓ 785b9873bdf4 Pull complete	
✓ 0ef9446ba5cc Pull complete	
✓ 53aff88babc4 Pull complete	
✓ d72f92e29533 Pull complete	
✓ 706ed7d4ce0a Pull complete	
✓ d3245570f968 Pull complete	
✓ e58e184b986a Pull complete	
✓ eeb77e6dde3e Pull complete	
✓ 0bd0f5795eeb Pull complete	
✓ 71bfb306f8cb Pull complete	
✓ 738fc7520889 Pull complete	
✓ fe8a6b2cf4e3 Pull complete	
✓ e6f8fab512d1 Pull complete	
✓ 15f36d0b0439 Pull complete	
✓ a2fc4187e3b4 Pull complete	
✓ 3d5785144815 Pull complete	
✓ 566cdc02555d Pull complete	
✓ c700be87d617 Pull complete	
✓ 4f4fb700ef54 Pull complete	
✓ b69c76bd2b6b Pull complete	
✓ d5aa2a3a6539 Pull complete	
✓ 8fb30af17153 Pull complete	
✓ 9ffe54c5c139 Pull complete	
✓ 279b28aefa10 Pull complete	
✓ a900dfcceb38 Pull complete	
✓ 9a90645e352c Pull complete	
✓ 8e911c59da28 Pull complete	
✓ c219d58cc3f9 Pull complete	
✓ b0e280e9aa8c Pull complete	
✓ 8c389e58e867 Pull complete	
[+] Running 2/2	
✓ Network docker_nagios	
✓ Volume "docker_nagios-data"	
[+] Running 4/4d orphan contain	ers ([librenms-mysql]) for this project. If you remove
✓ Network docker_nagios	
✓ Volume "docker_nagios-data"	
🗸 Container grafana	
. Container pagies	Started 11 1a

root@Docker-SSII:~/docker# docker ps							
CONTAINER ID	IMAGE	COMMAND	CREATED				
STATUS	PORTS		NAMES				
bce2399a0f6f	grafana/grafana:latest	"/run.sh"	19 seconds ago				
Up 11 seconds	0.0.0.0:3000->3000/tcp, [:	:]:3000->3000/tcp	grafana				
79dec7d9410d	jasonrivers/nagios:latest	"/usr/local/bin/star…"	19 seconds ago				
Up 11 seconds	5667/tcp, 0.0.0.0:8080->80	/tcp, [::]:8080->80/tcp	nagios				
416f5b30271b	mariadb:latest	"docker-entrypoint.s"	12 minutes ago				
Up 12 minutes	3306/tcp		librenms-mysql				
root@Docker-SS	II:~/docker#						

Accède à l'interface web de Nagios : http://192.168.62.121:8080 Accède à l'interface de Grafana : http://192.168.62.121:3000



Lorsque tu utilises **Nagios** dans un conteneur Docker, la méthode pour ajouter un hôte est légèrement différente car tu n'as pas accès directement aux fichiers de configuration comme tu le ferais sur une machine physique.

Voici les étapes pour ajouter un hôte dans **Nagios** qui fonctionne dans Docker et redémarrer le service correctement.



Étape 1 : Accéder au conteneur Nagios

Cela va te connecter à un terminal à l'intérieur du conteneur **Nagios**.

Étape 2 : Modifier la configuration de Nagios



Le nagios c'est un peu coomplique avec docker de lalle configurer les ficher pour ajouter les device don je supprime cette conteneu et ajoute librenms



Avec Librenms :



On suite in redemare les service

root@Docker-SSII:~/docker# d	ocker compose down	
WARN[0000] /root/docker/dock	er-compose.yml: the attribute `version` is obsole	te, it w
ill be ignored, please remov	e it to avoid notential confusion	
[+] Running 3/3		
✓ Container librenms-mysql		9.63
✓ Container grafana	Removed	5.05
√ Network docker librenms		0.23
root@Docker-SSII:~/docker# d	ocker compose up -d	
WARN[0000] /root/docker/dock	er-compose.yml: the attribute `version` is obsole	ete, it w
ill be ignored, please remov	e it to avoid potential confusion	
[+] Running 0/1		
" Network docker librenms	Creating	0.0s
WARN[0000] Found orphan cont	ainers ([nagios]) for this project. If you remove	d or ren
[+] Running 4/4ce in your con	mpose file, you can run this command with ther	emove-or
✓ Network docker librenms		0.1s
✓ Container librenms-mysql		2.0s
🗸 Container grafana		2.0s
✓ Container librenms		2.0s
root@Docker-SSII:~/docker#		

←	\rightarrow	С	0	Non sécurisé	192.168.62.121:8081/ld	ogin 🕏	☆	${igsidential}$	⊻ ©	பி	≡
	\$	/ \ / \ / \ / \ / \			ibre		N	Λ			^
	I	Usemame									
		Password									
		Rememb	er Me								
					→) Login						
		Una	uthori	ised access or use	e shall render the user lia	able to criminal and/	or civil pro	secution			
		Unai	uthori	ised access or use	e shall render the user lia	able to criminal and/	or civil pro	secution			

Ajoute un device pour superviser

$\leftarrow \rightarrow C$	Ŷ	À S	ල ± 3 ≡				
IbrenMS 🔅	A Overview 📰 Devices	Maps Services	🖉 Ports	🂝 Health 🕕 Alerts	💄 admin	¢ Gi	obal Search
Lists: Basic Detail Gra	phs: Bits CPU Load Memory L	Availability Geographical			Agent	V Ren	
Search	All 🗸 All OS 👻 All Ver	Custom Map Editor Custom Node Image Mar	isets ▼ nager	All Locations - All Device Types -	Search Update URL Reset		€ 50 - ≣-
S. Id M. Vendor	Device	 Metrics 	Platform	Operating System	Up/Down Time	Location	Actions
1	192.168.104.253 serveur-2016.btssiojb.local			Microsoft Windows			⊡ 0 ‡ ≻_ ≜ 3
α < 1 > »							Showing 1 to 1 of 1 entries

connecter LibreNMS à Grafana pour visualiser les métriques dans Grafana.

ibreNMS n'envoie pas directement des données à Grafana, il faut une base **InfluxDB** comme pont.

root@Docker-SS	II:~/docker# docker ps				\sim			
CONTAINER ID	IMAGE	COMMAND	CREATED	STA				
TUS POF	TS							
NAMES								
004d322916b3	librenms/librenms:latest	"/init"	19 hours ago	Up				
19 hours 162	/tcp, 162/udp, 514/tcp, 514/	/udp, 0.0.0.0:8081->8000/	tcp, [::]:8081-	>800				
0/tcp librer	0/tcp librenms							
bcee2090f9a0	mariadb:latest	"docker-entrypoint.s"	19 hours ago	Up				
19 hours 330	06/tcp							
librer	ms-mysql							
7b2155f20148	grafana/grafana:latest	"/run.sh"	19 hours ago	Up				
19 hours 0.0	0.0.0:3000->3000/tcp, [::]:30	000->3000/tcp						
grafar	ia.							
grand grand state of the second state of the s								
-p 8086:8086 \								
-v \$(pwd)/influxdb:/var/lib/influxdb \								
influxdb								
Unable to find image 'influxdb:latest' locally								
latest: Pullir	g from library/influxdb	*						
6e909acdb790: Extracting 26.84MB/28.2MB								
fd316d5ef10c:	Download complete							
be6c6bf9a35c:	Download complete							
68da9976e85a:	Download complete							
d8a0c055350c:	Download complete							
ed361e527918:	Downloading 27.44MB/100.3MM	3						
dab1f1c7b533:	Download complete							
2cda0db1fd06:	Download complete							
13b273930612:	Download complete							
b187d1b203dc:	Download complete							

2 Configurer LibreNMS pour envoyer les données à InfluxDB



Status: Downloaded newer image for restic/restic:latest Creating librenms_db Creating librenms redis Creating librenms Creating librenms_memcached ... done Creating restic backup Creating librenms root@Docker-SSII:~/docker/librenms# docker ps CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES 819923b2727f librenms/librenms:latest "/init" 14 seconds ag o Up 10 seconds 162/tcp, 514/tcp, 162/udp, 0.0.0.0:514->514/udp, :::514->514/udp, 0.0.0.0:8081->8000/tcp, :::8081->8000/tcp librenms fd5df18f7a19 restic/restic:latest "tail -f /dev/null" 14 seconds ag o Up 10 seconds restic_backup minio/minio:latest c2474e65a8bb "/usr/bin/docker-ent..." 21 seconds ag 0.0.0.0:9001->9001/tcp, :::9001->9001/tcp, 0.0.0.0:9002->9000/tcp o Up 13 seconds , :::9002->9000/tcp minio backup "docker-entrypoint.s..." 21 seconds ag d200560a8166 mariadb:10.5 o Up 13 seconds 3306/tcp librenms db 1d2187abf23e redis:alpine "docker-entrypoint.s..." 21 seconds ag 0 Up 13 seconds 6379/tcp librenms redis 52a77c6c8d79 portainer/portainer-ce:latest "/portainer" 21 seconds ag o Up 13 seconds 0.0.0.0:8000->8000/tcp, :::8000->8000/tcp, 0.0.0.0:9000->9000/tcp portainer , :::9000->9000/tcp, 0.0.0.0:9443->9443/tcp, :::9443->9443/tcp 9c903c54d4f6 memcached:alpine "docker-entrypoint.s..." 21 seconds ag Up 13 seconds 11211/tcp 0 librenms memcached

Librenms http://192.168.62.121:8081

• Identifiant: librenms

• Mot de passe : librenms

\leftarrow	$ $ \rightarrow	C	\bigcirc	Non sécurisé	192.168.62.121:8081/login	🛪 🖒	⊘ ⊻	© ئ	≡
									^
	ŀ	Jsemame							
	F	assword							
	•	Remembe	er Me						
					→) Login				
		Unau	ithoris	ed access or use	shall render the user liable to c	riminal and/or civil p	rosecution.		



MinIO (Console de sauvegarde) : http://192.168.62.121:9001

- Identifiant : admin
- Mot de passe : admin123



root@Docker-SS	II:~/dock	er# docker	pull	jasonriver	s/nagios	
Using default	tag: late	st				
latest: Pullin	lg from ja	sonrivers/	nagios	3		
ff65ddf9395b:	Download	complete				
785b9873bdf4:	Downloadi	.ng 38.14M	B/275.	ЗМВ		
Oef9446ba5cc:	Download	complete				
53aff88babc4:	Download	complete				
d72f92e29533:	Download	complete				
706ed7d4ce0a:	Download	complete				
d3245570f968:	Download	complete				
e58e184b986a:	Download	complete				
eeb77e6dde3e:	Download	complete				
0bd0f5795eeb:	Download	complete				
71bfb306f8cb:	Download	complete				
738fc7520889:	Download	complete				
fe8a6b2cf4e3:	Download	complete				
e6f8fab512d1:	Download	complete				
15f36d0b0439:	Download	complete				
a2fc4187e3b4:	Download	complete				
3d5785144815:	Download	complete				
566cdc02555d:	Download	complete				
c700be87d617:	Waiting					
4f4fb700ef54:	Waiting					
b69c76bd2b6b:	Waiting					
d5aa2a3a6539:	Waiting					
8fb30af17153:	Waiting					
0.55 54 5 400						