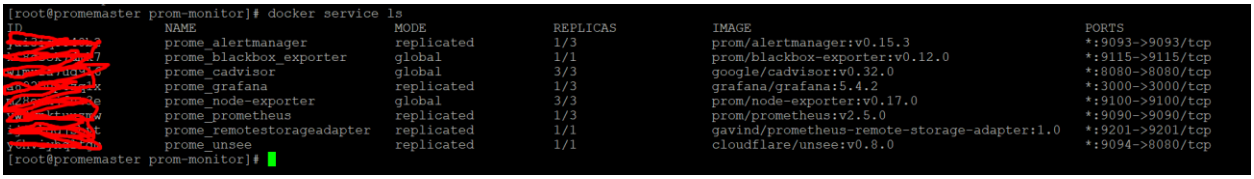
How to use Prometheus monitor for dummies.

Past 1 : how to start monitor service



```
[root@promemaster prom-monitor]# docker service ls
ID             NAME                    MODE         REPLICAS   IMAGE                                          PORTS
[redacted]     prome_alertmanager      replicated   1/3        prom/alertmanager:v0.15.3                      *:9093->9093/tcp
[redacted]     prome_blackbox_exporter global       1/1        prom/blackbox-exporter:v0.12.0                 *:9115->9115/tcp
[redacted]     prome_cadvisor          global       3/3        google/cadvisor:v0.32.0                        *:8080->8080/tcp
[redacted]     prome_grafana           replicated   1/3        grafana/grafana:5.4.2                          *:3000->3000/tcp
[redacted]     prome_node-exporter     global       3/3        prom/node-exporter:v0.17.0                     *:9100->9100/tcp
[redacted]     prome_prometheus        replicated   1/3        prom/prometheus:v2.5.0                         *:9090->9090/tcp
[redacted]     prome_remotestorageadapter replicated 1/1       gavind/prometheus-remote-storage-adapter:1.0   *:9201->9201/tcp
[redacted]     prome_unsee             replicated   1/1        cloudflare/unsee:v0.8.0                        *:9094->8080/tcp
[root@promemaster prom-monitor]#
```

1.1 All service to use on monitor system

Note:

Prome-cluster(swarm cluster) : promemaster(192.168.x.x) , promeworker1(192.168.x.x) , promeworker2(192.168.x.x)

Step 1 : goto prome-monitor folder

```
[root@promemaster prom-monitor]#
login as: root
root@192.168.252.61's password:
Last login: Tue Jan 22 09:31:16 2019 from 10.24.10.141
[root@promemaster ~]# cd prom-monitor/
[root@promemaster prom-monitor]# ll
total 28
drwxr-xr-x. 4 root root   30 Dec 28 09:36 alertmanager
-rwxr-xr-x. 1 root root 3151 Jan 21 11:04 back-swarm.yaml
drwxr-xr-x. 2 root root   26 Dec 28 09:36 blackbox-exporter
-rwxr-xr-x. 1 root root 2800 Nov 27 16:26 compose.yml
-rwxr-xr-x. 1 root root 2605 Nov 23 15:26 docker-compose.yaml
-rwxr-xr-x. 1 root root   57 Nov 12 18:13 Dockerfile
-rwxr-xr-x. 1 root root  892 Dec 28 11:32 font-swarm.yml
drwxr-xr-x. 4 root root   58 Dec 28 09:36 grafana
-rwxr-xr-x. 1 root root 1209 Nov 28 16:51 LICENSE
drwxr-xr-x. 3 root root   77 Jan 11 12:04 prometheus
-rwxr-xr-x. 1 root root   12 Nov 12 18:13 README.md
drwxr-xr-x. 2 root root   22 Dec 28 09:36 snmp-exporter
drwxr-xr-x. 3 root root   83 Dec 28 09:36 webhook
[root@promemaster prom-monitor]#
```

1.1.1 list file to start service

Step 2 : check running container

docker ps -a

- Kill all container is running or dead with # docker rm -f [container ID]

```
[root@promemaster prom-monitor]# docker ps -a
CONTAINER ID        IMAGE                          COMMAND                  CREATED             STATUS                    PORTS                    NAMES
7764e2596c9e        grafana/grafana:5.4.2          "/run.sh"                4 hours ago         Up 4 hours (healthy)      3000/tcp                 prome_grafa
na.1.k5ofwasv6cu349fsqyo6y732k
54d1ff097ae1        prom/alertmanager:v0.15.3      "/bin/alertmanager -…"   4 hours ago         Up 4 hours                9093/tcp                 prome_alert
manager.3.4yxh6qphbz74vtwe93q2duq78
ada848b8c675        prom/node-exporter:v0.17.0     "/bin/node_exporter …"   4 hours ago         Up 4 hours                9100/tcp                 prome_node-
exporter.5amg6xyn2dr9jq8yg9ixlualk.myat39wk3vs81ea2rrvg4eqck
752cc65671b3        prom/prometheus:v2.5.0         "/bin/prometheus --c…"   4 hours ago         Up 4 hours                9090/tcp                 prome_prome
theus.3.lfnt4e0kuzynqc687wly3pwk3
c4d0d3078a62        prom/blackbox-exporter:v0.12.0 "/bin/blackbox_expor…"   4 hours ago         Up 4 hours                9115/tcp                 prome_black
box_exporter.5amg6xyn2dr9jq8yg9ixlualk.itk6zimdmp8tu7sqtpxr2iaep
8db4dbe29a31        google/cadvisor:v0.32.0        "/usr/bin/cadvisor -…"   4 hours ago         Up 4 hours                8080/tcp                 prome_cadvi
sor.5amg6xyn2dr9jq8yg9ixlualk.gf6qphe0nbbb0sw1dt6rzbvov
adddd8c0b6e7        py-webhook                     "python ./webhook.py"    2 weeks ago         Up 2 weeks                0.0.0.0:5000->5000/tcp   webhook
[root@promemaster prom-monitor]#
```

docker service ls

- Kill all container is running or dead with # docker service rm [container ID]
- Or we can down all container in cluster with # docker stack rm [swarm cluster name]

```
[root@promemaster prom-monitor]# docker service ls
ID                  NAME                        MODE                REPLICAS            IMAGE                                          PORTS
yai3iqoo40b2        prome_alertmanager          replicated          1/3                 prom/alertmanager:v0.15.3                      *:9093->9093/tcp
kt8csok7dmk7        prome_blackbox_exporter     global              1/1                 prom/blackbox-exporter:v0.12.0                 *:9115->9115/tcp
w1mxfa7ud916        prome_cadvisor              global              3/3                 google/cadvisor:v0.32.0                        *:8080->8080/tcp
a892bup6zq1x        prome_grafana               replicated          1/3                 grafana/grafana:5.4.2                          *:3000->3000/tcp
m28ewhjfnt3e        prome_node-exporter         global              3/3                 prom/node-exporter:v0.17.0                     *:9100->9100/tcp
vw0wnktuuzmw        prome_prometheus            replicated          1/3                 prom/prometheus:v2.5.0                         *:9090->9090/tcp
ijinkggjsbyt        prome_remotestorageadapter  replicated          1/1                 gavind/prometheus-remote-storage-adapter:1.0   *:9201->9201/tcp
y6hviyhqlfgm        prome_unsee                 replicated          1/1                 cloudflare/unsee:v0.8.0                        *:9094->8080/tcp
[root@promemaster prom-monitor]#
```

Step 3 : start service with swarm mode

docker stack deploy -c back-swarm.yaml prome

Note :

stack = use swarm mode

-c = compose file path (.yml or .yaml)

prome = swarm cluster name

```
[root@promemaster prom-monitor]# docker stack deploy -c back-swarm.yaml prome
Creating network prome_default
Creating service prome_prometheus
Creating service prome_node-exporter
Creating service prome_alertmanager
Creating service prome_cadvisor
Creating service prome_blackbox_exporter
Creating service prome_remotestorageadapter
[root@promemaster prom-monitor]#
```

docker stack deploy -c font-swarm.yml prome

```
[root@promemaster prom-monitor]# docker stack deploy -c font-swarm.yml prome
Creating service prome_unsee
Creating service prome_grafana
[root@promemaster prom-monitor]#
```

docker stack ls

```
[root@promemaster prom-monitor]# docker stack ls
NAME                SERVICES            ORCHESTRATOR
prome               8                   Swarm
[root@promemaster prom-monitor]#
```

list all swarm cluster node

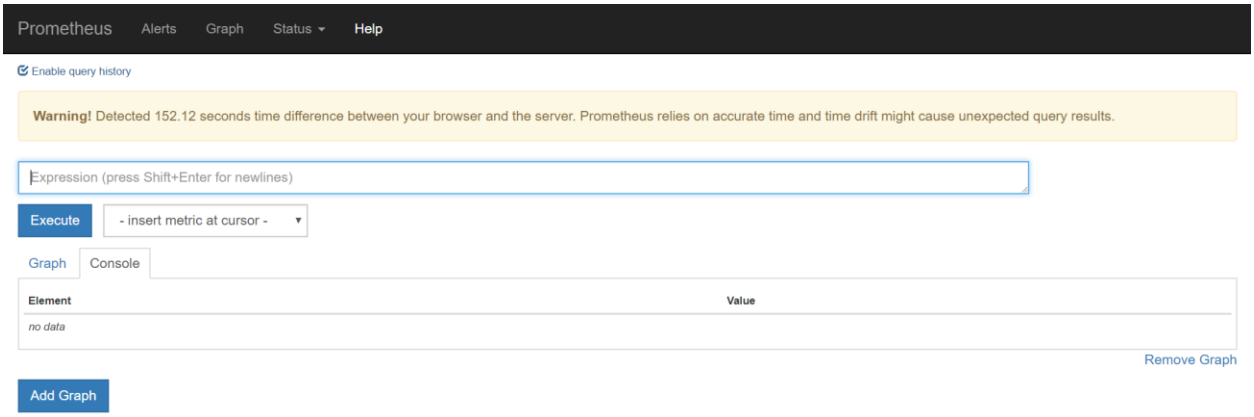
docker service ls

```
[root@promemaster prom-monitor]# docker service ls
ID                  NAME                        MODE                REPLICAS            IMAGE                                          PORTS
lznq5dy4apoy        prome_alertmanager          replicated          1/3                 prom/alertmanager:v0.15.3                      *:9093->9093/tcp
fxuogisofeze        prome_blackbox_exporter     global              1/1                 prom/blackbox-exporter:v0.12.0                 *:9115->9115/tcp
dtfzb30t6lkp        prome_cadvisor              global              3/3                 google/cadvisor:v0.32.0                        *:8080->8080/tcp
fupzhzj3ujvb        prome_grafana               replicated          1/3                 grafana/grafana:5.4.2                          *:3000->3000/tcp
uwu04lq5oapd        prome_node-exporter         global              3/3                 prom/node-exporter:v0.17.0                     *:9100->9100/tcp
ozkpvzte2f15        prome_prometheus            replicated          1/3                 prom/prometheus:v2.5.0                         *:9090->9090/tcp
q59ki9k9hnh8        prome_remotestorageadapter  replicated          1/1                 gavind/prometheus-remote-storage-adapter:1.0   *:9201->9201/tcp
e256amvcy47s        prome_unsee                 replicated          1/1                 cloudflare/unsee:v0.8.0                        *:9094->8080/tcp
[root@promemaster prom-monitor]#
```

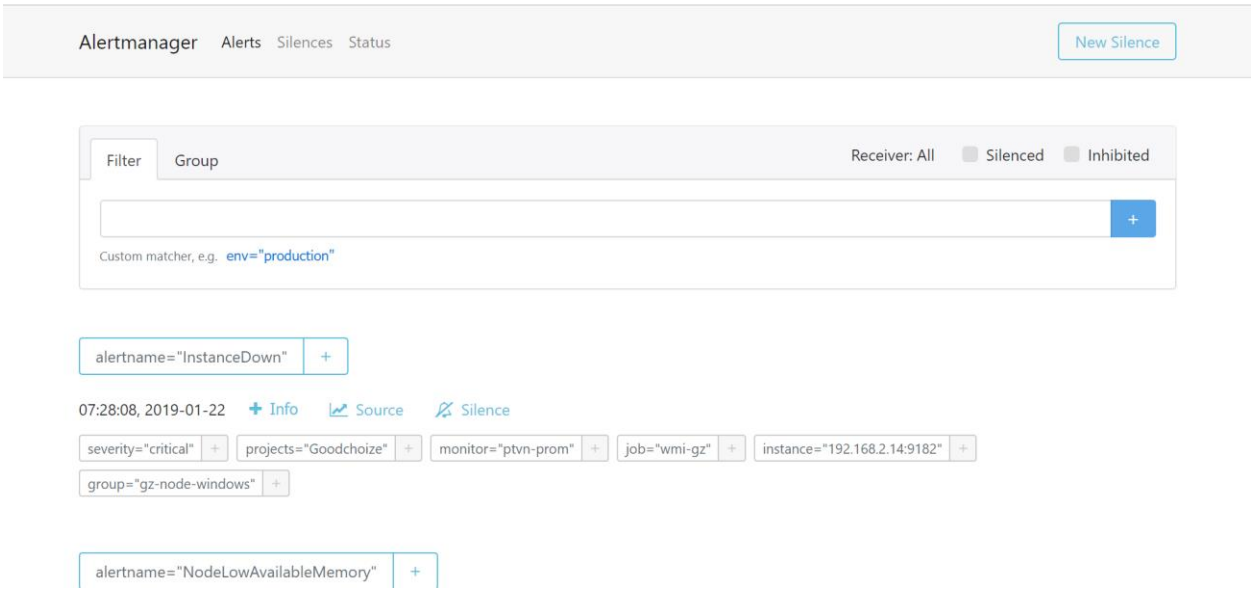
check all container replicas is not 0

Step 3 : check web service

- Prometheus : http://{your_IP}:9090/

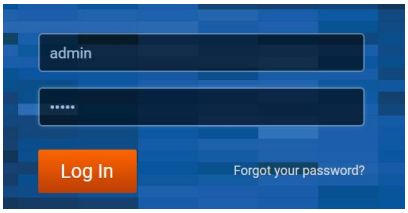


- Alertmanager : http://{your_IP}:9090/

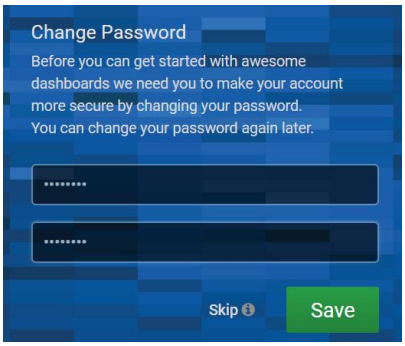


- Grafana fontend : http://{your_IP}:9090/

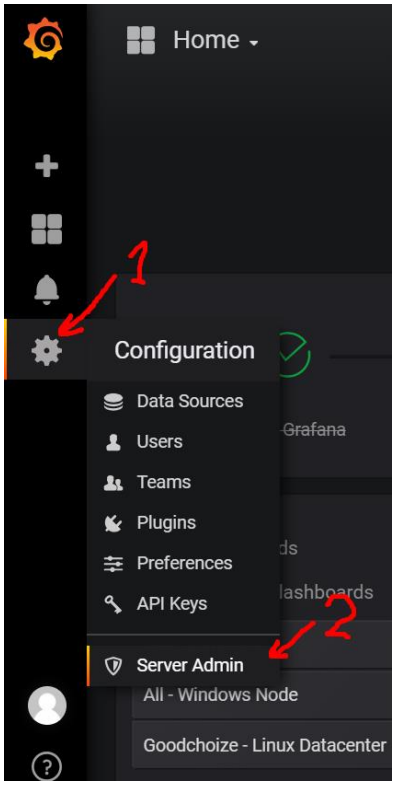
  - Login user : admin , password : admin

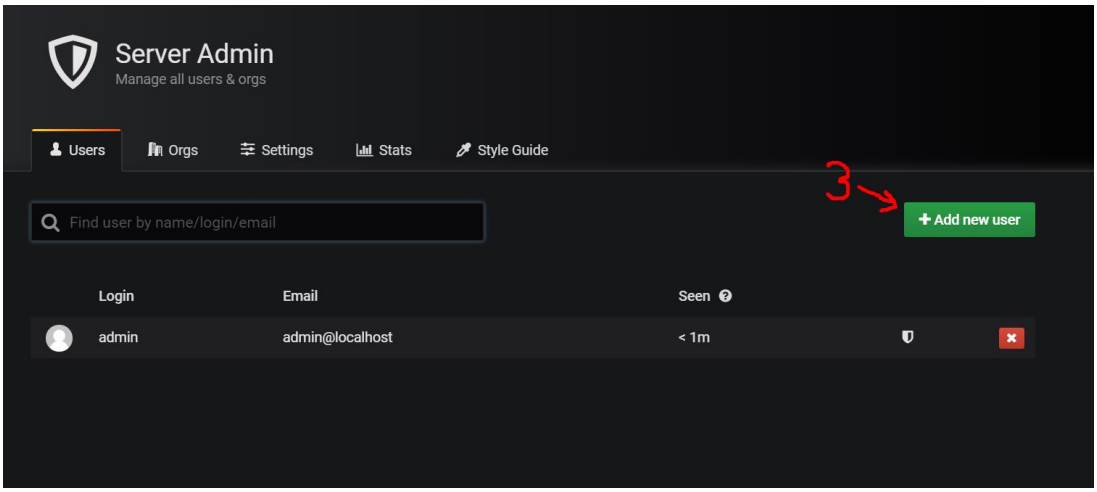


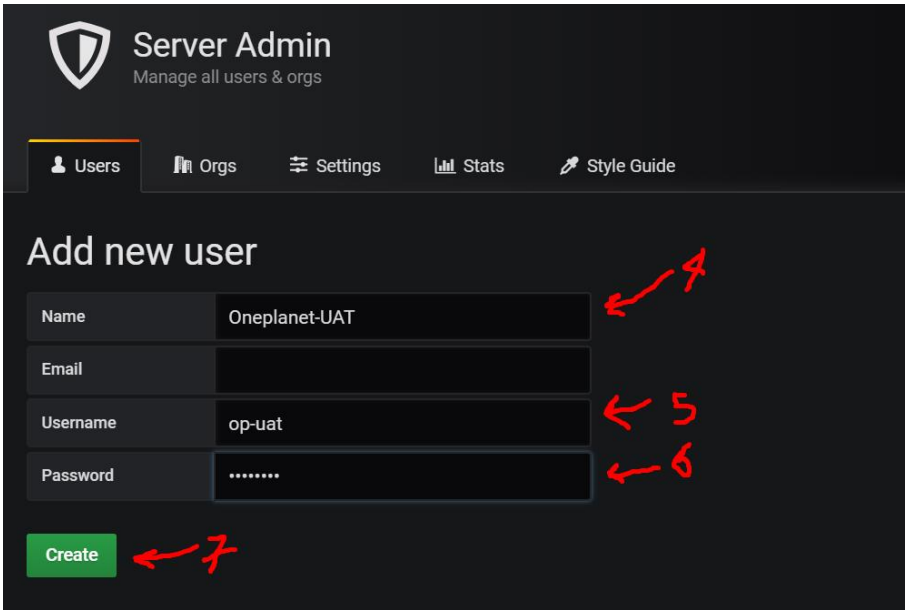
- Change admin password



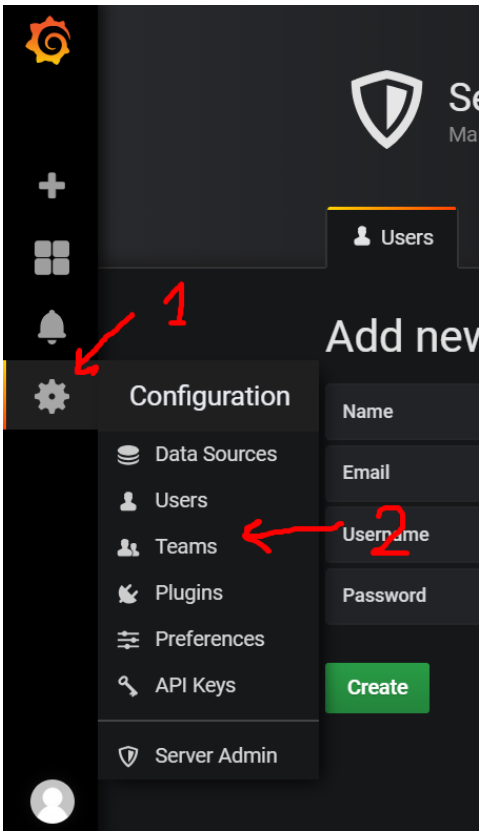
- Add other user

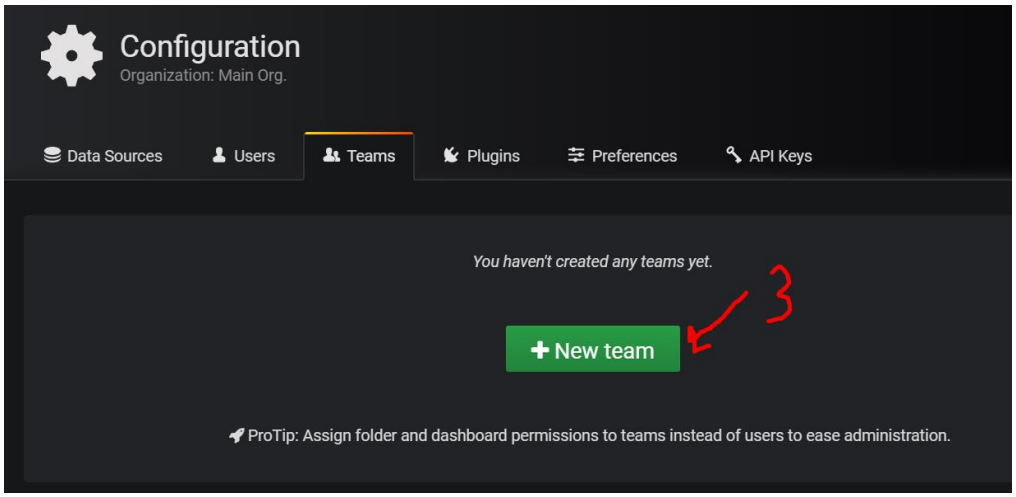


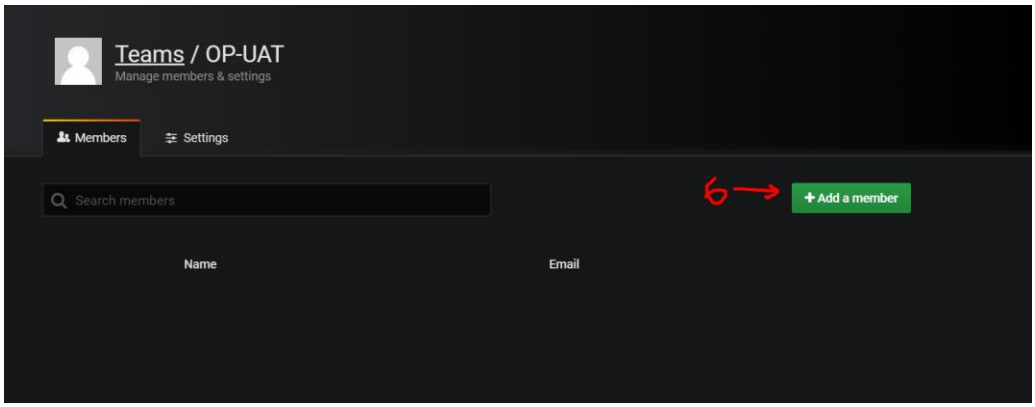


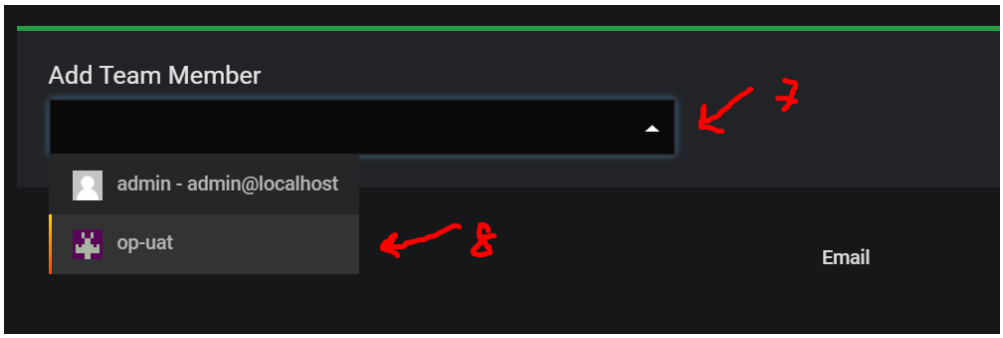


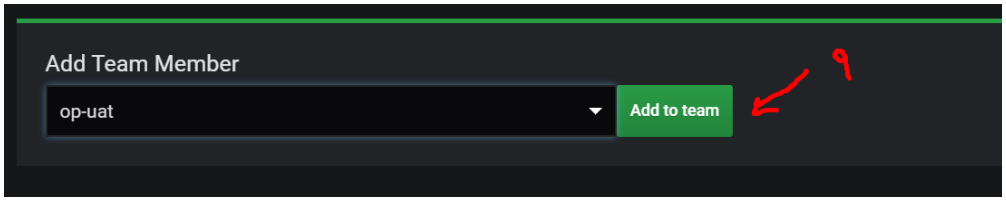
- Create team and add user


Users
1
Add nev
Configuration
Name
Email
Data Sources
Users
Username
2
Teams
Plugins
Password
Preferences
API Keys
Create
Server Admin

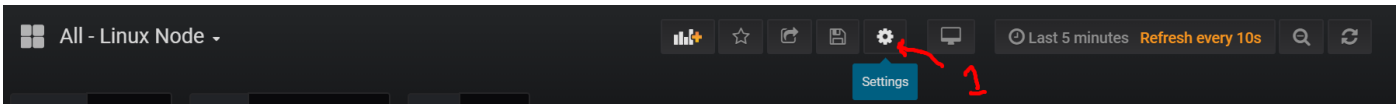

Configuration
Organization: Main Org.
Data Sources
Users
Teams
Plugins
Preferences
API Keys
You haven't created any teams yet.
3
+ New team
ProTip: Assign folder and dashboard permissions to teams instead of users to ease administration.

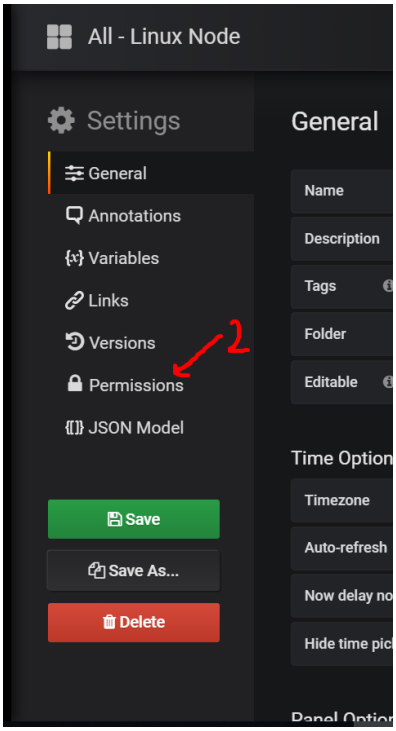


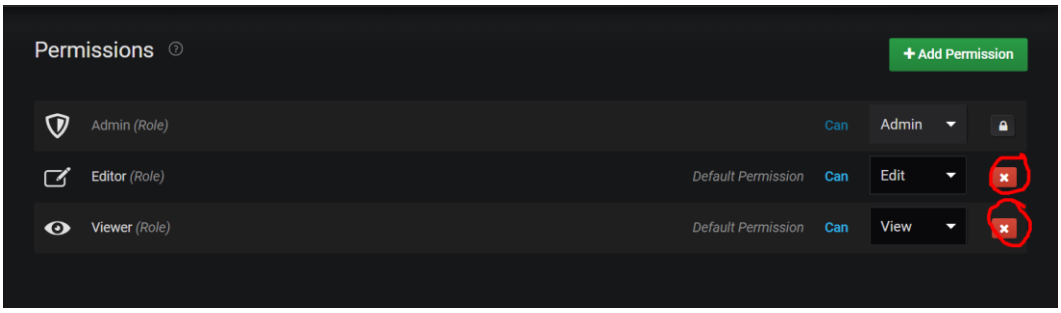




- Change permission on dashboards







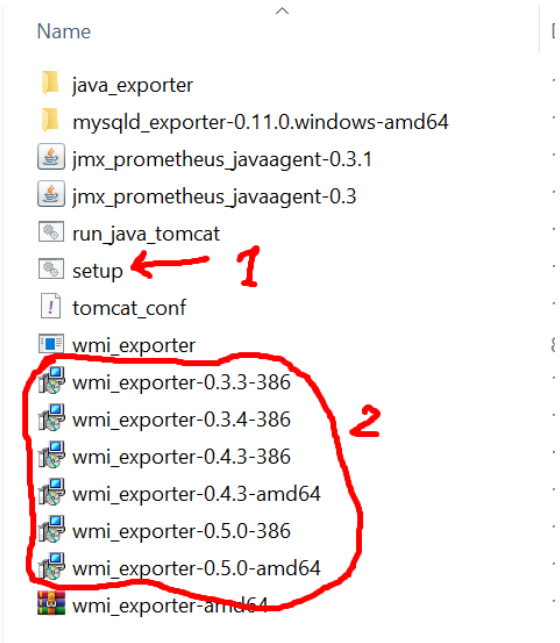
click X button to delete permission roles

- Open dashboards to monitor

Past 2 : install agent

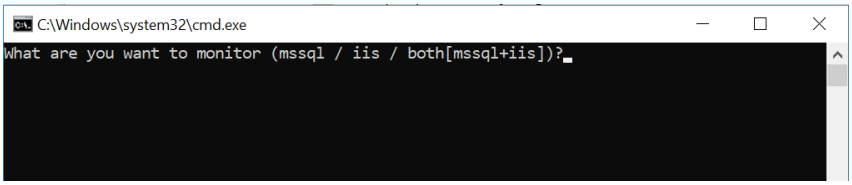
$ in windows host

Step 1 : copy script and one of msi files to same folder in host



Step 2 : run setup.bat to start script

Insert key for allow tools : mssql(for database server) , iis(for web server) , both(for not sure about server or both service)

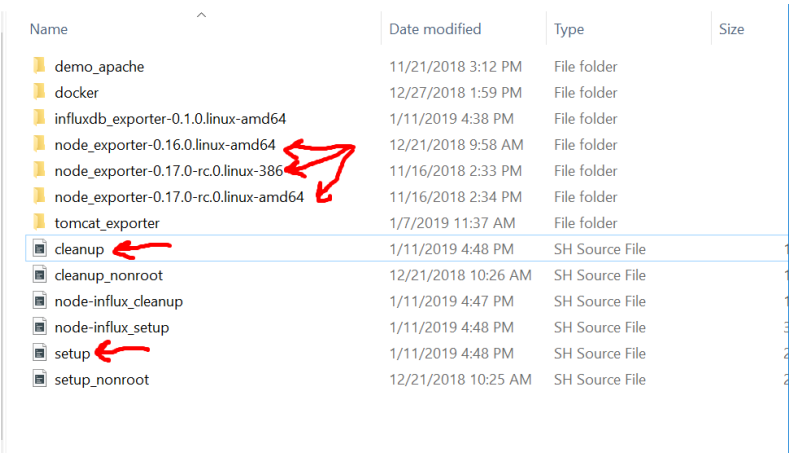


$ in linux host

In case login with root user

Step 1 : copy files from follow list to target host

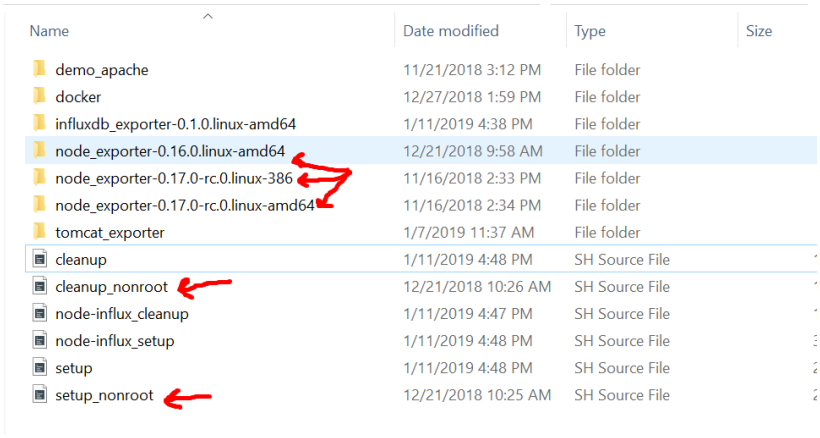
- setup.sh
- cleanup.sh
- one of folder [./node_exporter-*/]



In case login without root user

Step 1 : copy files from follow list to target host

- setup_nonroot.sh
- cleanup_nonroot.sh
- one of folder [./node_exporter-*/]



Name	Date modified	Type	Size
demo_apache	11/21/2018 3:12 PM	File folder	
docker	12/27/2018 1:59 PM	File folder	
influxdb_exporter-0.1.0.linux-amd64	1/11/2019 4:38 PM	File folder	
node_exporter-0.16.0.linux-amd64	12/21/2018 9:58 AM	File folder	
node_exporter-0.17.0-rc.0.linux-386	11/16/2018 2:33 PM	File folder	
node_exporter-0.17.0-rc.0.linux-amd64	11/16/2018 2:34 PM	File folder	
tomcat_exporter	1/7/2019 11:37 AM	File folder	
cleanup	1/11/2019 4:48 PM	SH Source File	
cleanup_nonroot	12/21/2018 10:26 AM	SH Source File	
node-influx_cleanup	1/11/2019 4:47 PM	SH Source File	
node-influx_setup	1/11/2019 4:48 PM	SH Source File	
setup	1/11/2019 4:48 PM	SH Source File	
setup_nonroot	12/21/2018 10:25 AM	SH Source File	

Step 2 : run shell script [setup.sh]

chmod +x *

```
[root@promeworker01 app]# ll
total 8
-rw-r--r--. 1 root root  456 Jan 11 16:48 cleanup.sh
drwxr-xr-x. 2 root root  121 Nov 16 15:39 docker
drwxr-xr-x. 2 root root   56 Jan 23 09:39 node_exporter-0.17.0-rc.0.linux-amd64
-rw-r--r--. 1 root root 1457 Jan 11 16:48 setup.sh
[root@promeworker01 app]# chmod +x *
[root@promeworker01 app]# ll
total 8
-rwxr-xr-x. 1 root root  456 Jan 11 16:48 cleanup.sh
drwxr-xr-x. 2 root root  121 Nov 16 15:39 docker
drwxr-xr-x. 2 root root   56 Jan 23 09:39 node_exporter-0.17.0-rc.0.linux-amd64
-rwxr-xr-x. 1 root root 1457 Jan 11 16:48 setup.sh
[root@promeworker01 app]#
```

change permission file to all user can execute.

./setup.sh

./setup_nonroot.sh

```
[root@promeworker01 app]# ./setup.sh
[+] Initial setup : in create prome-user and copy script.
[+] Initial setup : success..
[+] Change permission : for any file script.
[+] Change permission : success..
[+] Create service file
#### Node_exporter for OS metrics ####

[Unit]
Description=Node Exporter
Wants=network-online.target
After=network-online.target

[Service]
User=prometheus
ExecStart=/etc/node_exporter/node_exporter
Restart=on-failure

[Install]
WantedBy=multi-user.target
[+] Warm reload configuration file on service
Created symlink from /etc/systemd/system/multi-user.target.wants/node_exporter.s
ervice to /etc/systemd/system/node_exporter.service.
● node_exporter.service - Node Exporter
   Loaded: loaded (/etc/systemd/system/node_exporter.service; enabled; vendor pr
eset: disabled)
   Active: activating (auto-restart) (Result: exit-code) since Wed 2019-01-23 09
:48:15 +07; 157ms ago
 Main PID: 21200 (code=exited, status=1/FAILURE)

Jan 23 09:48:15 promeworker01 systemd[1]: Unit node_exporter.service entered....
Jan 23 09:48:15 promeworker01 systemd[1]: node_exporter.service failed.
Hint: Some lines were ellipsized, use -l to show in full.
```

script run success.

Step 3 : check service is running

systemctl status [-l] node_exporter

Note : -l = long term log display

```
[root@dvptvnwb02 ~]# systemctl status node_exporter
● node_exporter.service - Node Exporter
   Loaded: loaded (/etc/systemd/system/node_exporter.service; enabled; vendor pr
eset: disabled)
   Active: active (running) since Tue 2019-01-22 15:04:24 +07; 18h ago
 Main PID: 936 (node_exporter)
   CGroup: /system.slice/node_exporter.service
           └─936 /etc/node_exporter/node_exporter

Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Jan 22 15:04:29 dvptvnwb02 node_exporter[936]: time="2019-01-22T15:04:29+07:..."
Hint: Some lines were ellipsized, use -l to show in full.
[root@dvptvnwb02 ~]#
```

this terminal show normally service node_exporter

Step 4 : if you want to uninstall node_exporter

./cleanup.sh

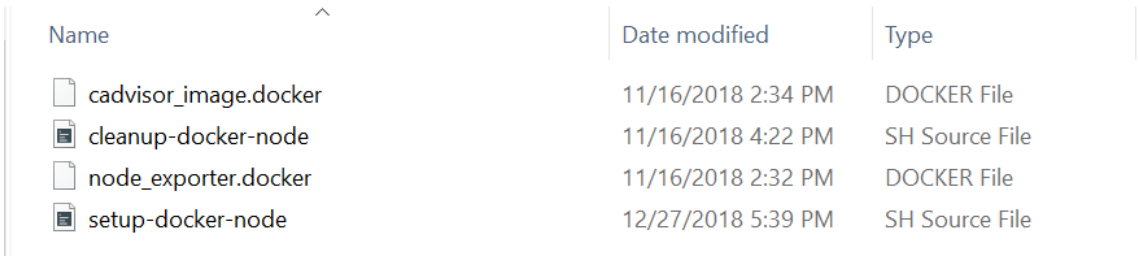
./cleanup_nonroot.sh

```
[root@promeworker01 app]# ./cleanup.sh
[+] Stop and disabled node_exporter service.
Removed symlink /etc/systemd/system/multi-user.target.wants/node_exporter.service.
[+] Force delete service file
[+] Delete prome-user
[+] Cleaning complete.
[root@promeworker01 app]#
```

$ in docker env host

Step 1 : copy requirement file to target host

- setup-docker-node.sh
- cleanup-docker-node.sh
- node_exporter.docker
- cadvisor_images.docker



Step 2 : change permission file

chmod +x *

```
[root@promeworker01 docker]# ll
total 85368
-rw-r--r--. 1 root root 63077888 Nov 16 14:34 cadvisor_image.docker
-rw-r--r--. 1 root root      819 Nov 16 16:22 cleanup-docker-node.sh
-rw-r--r--. 1 root root 24328704 Nov 16 14:32 node_exporter.docker
-rw-r--r--. 1 root root     1074 Dec 27 17:39 setup-docker-node.sh
[root@promeworker01 docker]# chmod +x *
[root@promeworker01 docker]# ll
total 85368
-rwxr-xr-x. 1 root root 63077888 Nov 16 14:34 cadvisor_image.docker
-rwxr-xr-x. 1 root root      819 Nov 16 16:22 cleanup-docker-node.sh
-rwxr-xr-x. 1 root root 24328704 Nov 16 14:32 node_exporter.docker
-rwxr-xr-x. 1 root root     1074 Dec 27 17:39 setup-docker-node.sh
[root@promeworker01 docker]#
```

Step 3 : run script [setup-docker-node.sh]

./setup-docker-node.sh

```
[root@dvdocker01 node_exporter]# ./setup-docker-node.sh
ad68498f8d86: Loading layer  4.628MB/4.628MB
ad8512dce2a7: Loading layer  2.781MB/2.781MB
cc1adb06ef21: Loading layer   16.9MB/16.9MB
Loaded image: prom/node-exporter:latest
52a5560f4ca0: Loading layer   5.06MB/5.06MB
f04a25da66bf: Loading layer  31.51MB/31.51MB
f60e27acaccf: Loading layer  26.49MB/26.49MB
Loaded image: google/cadvisor:latest
5f90dccc46a7aba93e1b956fe37def0d3acba39ac208da4d6d873e6d2a3dddd4
1d56e97d0c0f4002129b69a40301379fee18d97acab35bd7293e3f7f509f1617
```

Step 4 : check container running

docker ps

```
[root@dvdocker01 node_exporter]# docker ps
CONTAINER ID        IMAGE                  COMMAND                  CREATED             STATUS
          PORTS                                                 NAMES
1d56e97d0c0f        google/cadvisor        "/usr/bin/cadvisor -…"   6 minutes ago       Up 6 minu
tes       0.0.0.0:9090->8080/tcp                                cadvisor
5f90dccc46a7        prom/node-exporter     "/bin/node_exporter …"   6 minutes ago       Up 6 minu
tes       0.0.0.0:9100->9100/tcp                                node-exporter
db22a6204fd2        sonatype/nexus3        "sh -c ${SONATYPE_DI…"   2 months ago        Up 2 mont
hs        0.0.0.0:8081->8081/tcp                                nexus
032a4bce6a73        jenkinsci/blueocean    "/sbin/tini -- /usr/…"   2 months ago        Up 2 mont
hs        0.0.0.0:8080->8080/tcp, 0.0.0.0:50000->50000/tcp      ocean
[root@dvdocker01 node_exporter]#
```

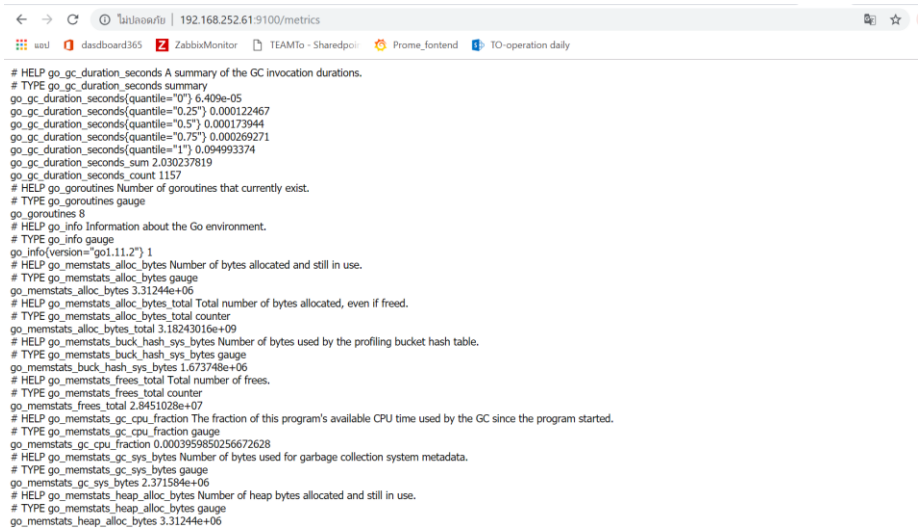
Step 5 : if you want to stop and cleanup container

./cleanup-docker-node.sh

```
[root@dvdocker01 node_exporter]# ./cleanup-docker-node.sh
ceb26851c170
ceb26851c170
Untagged: prom/node-exporter:latest
Deleted: sha256:188af75e2de0203eac7c6e982feff45f9c340eaac4c7a0f59129712524fa2984
Deleted: sha256:da145bfaa38bb41109657eebb1415b50a9dbeb2af38131ae8839394d29ad9868
Deleted: sha256:57b2a48fa43eda6fe50ffe81f9162553704837bb2f7a8a6bc4467cd9906cccb9
Deleted: sha256:ad68498f8d863de25f68df0708e790f16aaf67f3088217be89e6e80f4fa9cf27
44089d07617b
44089d07617b
Untagged: google/cadvisor:latest
Deleted: sha256:75f88e3ec333cbb410297e4f40297ac615e076b4a50aeeae49f287093ff01ab1
Deleted: sha256:81d2f700310845b28ec3fe27eb25a421824246bfb976c5736f0e24e06b088df3
Deleted: sha256:f6224b5679b6084e545b20324f3b9d39c1360850ecf432faf37fcc7a6f24d4e0
Deleted: sha256:52a5560f4ca0b62c53985258faceddc20afe53fca394aec8a32083e01659d9fd
```

Past 3 : check agent is normally

- goto webbrowser and insert url : http://{IP host}:9100/metrics



Past 4 : add host to prome monitor

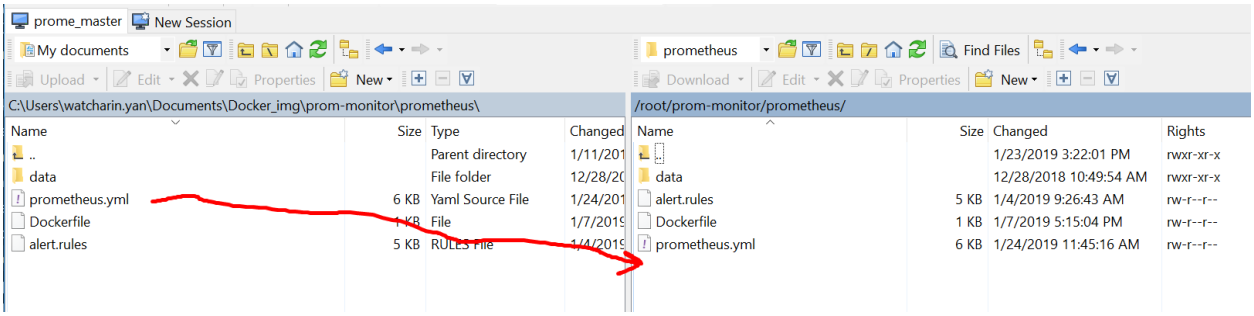
Step 1 : goto Prometheus.yml

copy following config to under scrape_config:

```yaml
scrape_configs:
  - job_name: [Job_name]
    scrape_interval: 10s
    scrape_timeout: 10s
    static_configs:
```

```
    - targets:
      - [IP / DNS name : port]
      labels:
        group: [Group name]
        projects: [projects name]
    - targets:
      - [IP / DNS name : port]
      labels:
        group: [Group name]
        projects: [projects name]
```

Step 2 : copy edited file to promemaster(192.168.252.61) server



Step 3 : rebuild Prometheus container

docker service ls

docker service rm [prome container id]

```
[root@promemaster prom-monitor]# docker service ls
ID                  NAME                      MODE                REPLICAS            IMAGE                                          PORTS
vmdepnpy3aut        prome_alertmanager        replicated          1/3                 prom/alertmanager:v0.15.3                      *:9093->9093/tcp
10239t6w1i81        prome_blackbox_exporter   global              1/1                 prom/blackbox-exporter:v0.12.0                 *:9115->9115/tcp
f40jlh1qfz55        prome_cadvisor            global              3/3                 google/cadvisor:v0.32.0                        *:8080->8080/tcp
i0otyd5xv6q4        prome_grafana             replicated          1/3                 grafana/grafana:5.4.2                          *:3000->3000/tcp
p0oguzp4p0n7        prome_node-exporter       global              3/3                 prom/node-exporter:v0.17.0                     *:9100->9100/tcp
32kxf3zuqmow        prome_prometheus          replicated          1/3                 prom/prometheus:v2.5.0                         *:9090->9090/tcp
3rgt6t9dk75k        prome_remotestorageadapter replicated         1/1                 gavind/prometheus-remote-storage-adapter:1.0   *:9201->9201/tcp
vznzolj6kwf3        prome_unsee               replicated          1/1                 cloudflare/unsee:v0.8.0                        *:9094->8080/tcp
[root@promemaster prom-monitor]# docker service rm 32kxf3zuqmow
32kxf3zuqmow
[root@promemaster prom-monitor]#
```

docker stack deploy -c back-swarm.yaml prome

```
[root@promemaster prom-monitor]# docker stack deploy -c back-swarm.yaml prome
Updating service prome_blackbox_exporter (id: 10239t6w1i8lyh413t1rxp9w2)
Updating service prome_remotestorageadapter (id: 3rgt6t9dk75ky3in3z9klsiyq)
Creating service prome_prometheus
Updating service prome_node-exporter (id: p0oguzp4p0n732f7y3uhrjgo1)
Updating service prome_alertmanager (id: vmdepnpy3autorfj6q2abjox0)
Updating service prome_cadvisor (id: f40jlh1qfz5541me9kxkvow48)
[root@promemaster prom-monitor]#
```

Step 3 : check host on prome webUI