

How To Install and Configure Prometheus On a Linux Server

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By: devopscube

Prometheus is an open-source monitoring system which is very lightweight and has a good alerting mechanism.

Install and Configure Prometheus

This guide explains how to install and configure the latest Prometheus on a Linux VM.

If you would like to install Prometheus on a Kubernetes cluster, please see the [Prometheus on kubernetes](#) guide.

Before You Begin

1. Ensure that you have sudo access to the Linux server because the commands used in this guide require elevated privileges.
2. The server has access to the internet for downloading the Prometheus binary.
3. Most importantly, firewall rules opened for accessing Prometheus port 9090 on the server.

Setup Prometheus Binaries

Step 1: Update the yum package repositories.

```
sudo yum update -y
```



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Step 2: Go to the official Prometheus [downloads page](#) and get the latest download link for the Linux binary.

prometheus

The Prometheus monitoring system and time series database. [prometheus/prometheus](#)

2.3.2 / 2018-07-12 [Release notes](#)

File name	OS	Arch	Size	SHA256 Checksum
prometheus-2.3.2.darwin-amd64.tar.gz	darwin	amd64	26.10 MiB	4c7475892eac1c94e4f2b91fdef3e8ba1835ece7d292d394db8eeda23ba45e48
prometheus-2.3.2.linux-amd64.tar.gz	linux	amd64	26.13 MiB	351931fe9bb252849b7d37183099047fbed7b79dcba013fb6ae19cc1bbd8552
prometheus-2.3.2.windows-amd64.tar.gz	windows	amd64	25.91 MiB	6eae9c996a1f6820b782a608f916c36725887a6f1dac604a3fe007cd6f8c4005

Step 3: Download the source using curl, untar it, and rename the extracted folder to prometheus-files.

```
curl -LO url -LO https://github.com/prometheus/prometheus/releases/download/v2.22.0/prometheus-2.22.0.linux-amd64.tar.gz
tar -xvf prometheus-2.22.0.linux-amd64.tar.gz
mv prometheus-2.22.0.linux-amd64 prometheus-files
```

Step 4: Create a Prometheus user, required directories, and make Prometheus the user as the owner of those directories.

```
sudo useradd --no-create-home --shell /bin/false prometheus
sudo mkdir /etc/prometheus
sudo mkdir /var/lib/prometheus
sudo chown prometheus:prometheus /etc/prometheus
sudo chown prometheus:prometheus /var/lib/prometheus
```

Step 5: Copy prometheus and promtool binary from prometheus-files folder to /usr/local/bin and change the ownership to prometheus user.

```
sudo cp prometheus-files/prometheus /usr/local/bin/
sudo cp prometheus-files/promtool /usr/local/bin/
sudo chown prometheus:prometheus /usr/local/bin/prometheus
sudo chown prometheus:prometheus /usr/local/bin/promtool
```

Step 6: Move the consoles and console_libraries directories from prometheus-files to /etc/prometheus folder and change the ownership to prometheus user.

```
sudo cp -r prometheus-files/consoles /etc/prometheus
```



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```
sudo chown -R prometheus:prometheus /etc/prometheus/consoles
sudo chown -R prometheus:prometheus /etc/prometheus/console_libraries
```

Setup Prometheus Configuration

All the prometheus configurations should be present in /etc/prometheus/prometheus.yml file.

Step 1: Create the prometheus.yml file.

```
sudo vi /etc/prometheus/prometheus.yml
```

Step 2: Copy the following contents to the prometheus.yml file.

```
global:
  scrape_interval: 10s

scrape_configs:
  - job_name: 'prometheus'
    scrape_interval: 5s
    static_configs:
      - targets: ['localhost:9090']
```

Step 3: Change the ownership of the file to prometheus user.

```
sudo chown prometheus:prometheus /etc/prometheus/prometheus.yml
```

Setup Prometheus Service File

Step 1: Create a prometheus service file.

```
sudo vi /etc/systemd/system/prometheus.service
```

Step 2: Copy the following content to the file.

```
[Unit]
Description=Prometheus
Wants=network-online.target
After=network-online.target
```



```
User=prometheus
Group=prometheus
Type=simple
ExecStart=/usr/local/bin/prometheus \
  --config.file /etc/prometheus/prometheus.yml \
  --storage.tsdb.path /var/lib/prometheus/ \
  --web.console.templates=/etc/prometheus/consoles \
  --web.console.libraries=/etc/prometheus/console_libraries
```

```
[Install]
```

```
WantedBy=multi-user.target
```

Step 3: Reload the systemd service to register the prometheus service and start the prometheus service.

```
sudo systemctl daemon-reload
sudo systemctl start prometheus
```

Check the prometheus service status using the following command.

```
sudo systemctl status prometheus
```

The status should show the active state as shown below.

```
● prometheus.service - Prometheus
   Loaded: loaded (/etc/systemd/system/prometheus.service; disabled; vendor preset: disabled)
   Active: active (running) since Wed 2018-08-29 19:55:49 UTC; 2min 12s ago
 Main PID: 14789 (prometheus)
    CGroup: /system.slice/prometheus.service
            └─14789 /usr/local/bin/prometheus --config.file /etc/prometheus/prometheus.yml --storage.
```

Access Prometheus Web UI

Now you will be able to access the prometheus UI on 9090 port of the prometheus server.

```
http://<prometheus-ip>:9090/graph
```

You should be able to see the following UI as shown below.



Prometheus Alerts Graph Status ▾ Help

☐ Enable query history

Expression (press Shift+Enter for newlines)

Execute - insert metric at cursor ▾

Graph Console

Element	Value
no data	

Add Graph

You can use the prometheus query tab to query the available metrics as shown in the gif below.

Prometheus Alerts Graph Status ▾ Help

☐ Enable query history [Try experimental React UI](#)

process_cpu_seconds_total

Execute - insert metric at cursor ▾

Graph Console

◀ Moment ▶

Load time: 438ms
Resolution: 14s
Total time series: 1

Remove Graph

Element	Value
process_cpu_seconds_total{instance="localhost:9090",job="prometheus"}	0.68

Add Graph



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Right now, we have just configured the Prometheus server. You need to register the target in the `prometheus.yml` file to get the metrics from the source systems.

For example, if you want to monitor ten servers, the IP address of these servers should be added as a target in the Prometheus configuration to scrape the metrics.

The server should have Node Exporter installed to collect all the system metrics and make it available for Prometheus to scrap it.

Follow this detailed [Prometheus Node Exporter Guide](#) to setup node exporter and registering it to the Prometheus server.



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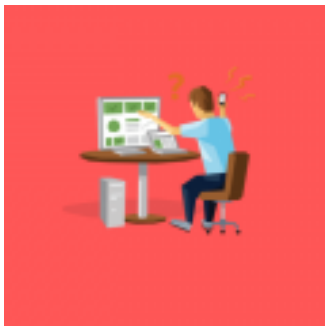
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When you install Jenkins, by default the Jenkins service runs on port 8080. Also, there is no direct option to run the



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Comments



Libra

There is some issue if you install node exporter on multiple servers and add configuration in Prometheus.yml scrape it crash Prometheus's it does not start. We have to run node exporters on unique ports?

[Reply](#)



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HI Libra,

Prometheus is capable of handling many targets. When you say Prometheus is crashing, are you seeing some errors in the logs? also, what is the system configuration that you are using?

[Reply](#)



Libren

Running 2.13.1 prometheus version

I found the issue and maybe its syntax error?

if I use all nodeexporter ip in one job_name line it works like this

```
– targets: ['localhost:9090','xxxxxx:9100','yyyyyyyyy:9100']
```

But when I define individual job names like this

```
– job_name: 'xxxxxxx'
```

```
static_configs:
```

```
– targets: ['xxxxxxxxx:9100']
```



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```
– job_name: 'yyyyyyyyy'

static_configs:

– targets: ['yyyyyyyyy:9100']
```

it crash

server.com systemd[1]: Stopped Prometheus Server.

server.com systemd[1]: start request repeated too quickly for prometheus.service

server.com systemd[1]: Failed to start Prometheus Server.

server.com systemd[1]: Unit prometheus.service entered failed state.

server.com systemd[1]: prometheus.service failed.

[Reply](#)

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You can try in the following format as well

```
static_configs:
- targets: ['x.x.x.x:9100']
- targets: ['x.x.x.x:9100']
- targets: ['x.x.x.x:9100']
```

[Reply](#)

Moni Priya

Can i get the VM requirements for installing prometheus on an linux machine like No. of CPU, Storage space etc

[Reply](#)

Vivek Onkar Makode

Thank you very much for the post. It helped me.

[Reply](#)



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Manikanth Kommoju

should we install prometheus on kubernetes master or different host?

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