**Prometheus Setup**

# **Pre-requisites**

* A CentOS VM or Machine
* A non-root sudo user, preferably one named prometheus.

# **Installing Prometheus Server**

First, create a new directory to store all the files you download in this tutorial and move to it.

|  |
| --- |
| $ mkdir ~/Downloads  $ cd ~/Downloads |

Use wget to download the latest build of the Prometheus server and time-series database from GitHub.

|  |
| --- |
| $ wget https://github.com/prometheus/prometheus/releases/download/v2.0.0/prometheus-2.0.0.linux-amd64.tar.gz |

The Prometheus monitoring system consists of several components, each of which needs to be installed separately. Keeping all the components inside one parent directory is a good idea, so create one using mkdir.

|  |
| --- |
| $ mkdir ~/Prometheus |

Enter the directory you just created.

|  |
| --- |
| $ cd ~/Prometheus |

Use tar to extract prometheus-2.0.0.linux-amd64.tar.gz:

|  |
| --- |
| **$ tar -xvzf ~/Downloads/prometheus-2.0.0.linux-amd64.tar.gz** |

This completes the installation of Prometheus server. Verify the installation by typing in the following command:

|  |
| --- |
| $ ~/Prometheus/prometheus-2.0.0.linux-amd64/prometheus --version |

You should see the following message on your screen:

|  |
| --- |
| prometheus, version 2.0.0 (branch: HEAD, revision: 0a74f98628a0463dddc90528220c94de5032d1a0)  build user: root@615b82cb36b6  build date: 20171108-07:11:59  go version: go1.9.2 |

# **Installing Node Exporter**

Prometheus was developed for the purpose of monitoring web services. In order to monitor the metrics of your server, you should install a tool called Node Exporter. Node Exporter, as its name suggests, exports lots of metrics (such as disk I/O statistics, CPU load, memory usage, network statistics, and more) in a format Prometheus understands.

Enter the Downloads directory and use **wget** to download the latest build of Node Exporter which is available on GitHub.

|  |
| --- |
| $ wget https://github.com/prometheus/node\_exporter/releases/download/v0.15.1/node\_exporter-0.15.1.linux-amd64.tar.gz |

Create a new directory called node\_exporter inside the Prometheus directory, and get inside it:

|  |
| --- |
| $ mkdir ~/Prometheus/node\_exporter |

|  |
| --- |
| $ cd ~/Prometheus/node\_exporter |

You can now use the tar command to extract : node\_exporter-0.15.1.linux-amd64.tar.gz

|  |
| --- |
| $ tar -xvzf ~/Downloads/node\_exporter-0.15.1.linux-amd64.tar.gz |

Perform this action:-

|  |
| --- |
| $ cp -rvf ~/Prometheus/node\_exporter/node\_exporter-0.15.1.linux-amd64/\* ~/Prometheus/node\_exporter/ |

# **Running Node Exporter as a Service**

To make it easy to start and stop Node Exporter, let us now convert it into a service.

Use vi or any other text editor to create a unit configuration file called node\_exporter.service.

|  |
| --- |
| # sudo vi /etc/systemd/system/node\_exporter.service |

This file should contain the path of the node\_exporter executable, and also specify which user should run the executable. Accordingly, add the following code:

|  |
| --- |
| [Unit] Description=Node Exporter  [Service] User=prometheus ExecStart=/home/prometheus/Prometheus/node\_exporter/node\_exporter  [Install] WantedBy=default.target |

Save the file and exit the text editor.

Reload systemd so that it reads the configuration file you just created.

|  |
| --- |
| # sudo systemctl daemon-reload |

At this point, Node Exporter is available as a service which can be managed using the systemctl command. Enable it so that it starts automatically at boot time.

|  |
| --- |
| # sudo systemctl enable node\_exporter.service |

You can now either reboot your server, or use the following command to start the service manually:

|  |
| --- |
| # sudo systemctl start node\_exporter.service |

Once it starts, use a browser to view Node Exporter's web interface, which is available at http://your\_server\_ip:9100/metrics. You should see a page with a lot of text:

# **Starting Prometheus Server**

Before you start Prometheus, you must first create a configuration file for it called prometheus.yml.

|  |
| --- |
| # vi ~/Prometheus/prometheus-2.0.0linux-amd64/prometheus.yml |

Copy the following code into the file.

|  |
| --- |
| scrape\_configs:  - job\_name: "node"  scrape\_interval: "15s"  static\_configs:  - targets: ['localhost:9100'] |

This creates a scrape\_configs section and defines a job called node. It includes the URL of your Node Exporter's web interface in its array of targets. The scrape\_interval is set to 15 seconds so that Prometheus scrapes the metrics once every fifteen seconds.

You could name your job anything you want, but calling it "node" allows you to use the default console templates of Node Exporter.

Save the file and exit.

Start the Prometheus server as a background process.

|  |
| --- |
| # nohup ./prometheus > prometheus.log 2>&1 & |

Note that you redirected the output of the Prometheus server to a file called prometheus.log. You can view the last few lines of the file using the tail command:

|  |
| --- |
| # tail ~/Prometheus/prometheus-2.0.0.linux-amd64/prometheus.log |

Use a browser to visit Prometheus's homepage available at http://your\_server\_ip:9090. You'll see the following homepage.

Visit http://your\_server\_ip:9090/consoles/node.html to access the Node Console and click on your server, localhost:9100, to view its metrics:

# 