Configuring Prometheus

Prior to using Prometheus, it needs basic configuring. Thus, we need to create a configuration file namedprometheus.yml

The configuration file of Prometheus is written inYAML which strictly forbids to use tabs. If your file is incorrectly formatted, Prometheus will not start. Be careful when you edit it. Open the fileprometheus.yml in a text editor:

```

Copy sudo nano /etc/prometheus/prometheus.yml

```

Prometheus' configuration file is divided into three parts:global ,rule_files , andscrape_configs .

In theglobal part we can find the general configuration of Prometheus:scrape_interval defines how often Prometheus scrapes targets,evaluation_interval controls how often the software will evaluate rules. Rules are used to create new time series and for the generation of alerts.

Therule_files block contains information of the location of any rules we want the Prometheus server to load.

The last block of the configuration file is namedscape_configs and contains the information which resources Prometheus monitors.

Our file should look like this example:

```

Copy global: scrape_interval: 15s evaluation_interval: 15s

rule_files:

# - "first.rules"

# - "second.rules"

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

```

The globalscrape_interval is set to 15 seconds which is enough for most use cases.

We do not have anyrule_files yet, so the lines are commented out and start with a# .

In thescrape_configs part we have defined our first exporter. It is Prometheus that monitors itself. As we want to have more precise information about the state of our Prometheus server we reduced thescrape_interval to 5 seconds for this job. The parametersstatic_configs andtargets determine where the exporters are running. In our case it is the same server, so we uselocalhost and the port9090 .

As Prometheus scrapes only exporters that are defined in thescrape_configs part of the configuration file, we have to add Node Exporter to the file, as we did for Prometheus itself.

We add the following part below the configuration for scraping Prometheus:

```

Copy - job_name: 'node_exporter' scrape_interval: 5s static_configs: - targets: ['localhost:9100']

```

Overwrite the global scrape interval again and set it to 5 seconds. As we are scarping the data from the same server as Prometheus is running on, we can uselocalhost with the default port of Node Exporter:9100 .

If you want to scrape data from a remote host, you have to replacelocalhost with the IP address of the remote server.

Tip: For all information about the configuration of Prometheus, you may check theconfiguration documentation .

Set the ownership of the file to ourPrometheus user:

```

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

```

Our Prometheus server is ready to run for the first time.

Running Prometheus

1. Start Prometheus directly from the command line with the following command, which executes the binary file as ourPrometheus
2. user:
3.

```

Copy sudo -u prometheus /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

```

The server starts displaying multiple status messages and the information that the server has started:

```

Copy level=info ts=2018-04-12T11:56:53.084000977Z caller=main.go:220 msg="Starting Prometheus" version="(version=2.2.1, branch=HEAD, revision=bc6058c81272a8d938c05e75607371284236aadc)" level=info ts=2018-04-12T11:56:53.084463975Z caller=main.go:221 build_context="(go=go1.10, user=root@149e5b3f0829, date=20180314-14:15:45)" level=info ts=2018-04-12T11:56:53.084632256Z caller=main.go:222 host_details="(Linux 4.4.127-mainline-rev1 #1 SMP Sun Apr 8 10:38:32 UTC 2018 x86_64 scw-041406 (none))" level=info ts=2018-04-12T11:56:53.084797692Z caller=main.go:223 fd_limits="(soft=1024, hard=65536)" level=info ts=2018-04-12T11:56:53.09190775Z caller=web.go:382 component=web msg="Start listening for connections" address=0.0.0.0:9090 level=info ts=2018-04-12T11:56:53.091908126Z caller=main.go:504 msg="Starting TSDB ..." level=info ts=2018-04-12T11:56:53.102833743Z caller=main.go:514 msg="TSDB started" level=info ts=2018-04-12T11:56:53.103343144Z caller=main.go:588 msg="Loading configuration file" filename=/etc/prometheus/prometheus.yml level=info ts=2018-04-12T11:56:53.104047346Z caller=main.go:491 msg="Server is ready to receive web requests."

```

Open your browser and typehttp://IP.OF.YOUR.SERVER:9090 to access the Prometheus interface. If everything is working, we end the task by pressing onCTRL + C on our keyboard.

If you get an error message when you start the server, double- check your configuration file for possible YAML syntax errors. The error message will tell you what to check. The server is working now, but it cannot yet be launched automatically at boot. To achieve this, we have to create a newsystemd configuration file that will tell your OS which services should it launch automatically during the boot process.

```

Copy sudo nano /etc/systemd/system/prometheus.service

```

The service file tellssystemd to run Prometheus asprometheus and specifies the path of the configuration files.

Copy the following information in the file and save it, then exit the editor:

```

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

[Service] 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 ExecReload=/bin/kill -HUP MAINPID

[Install] WantedBy=multi-user.target

```

To use the new service, reloadsystemd :

```

Copy sudo systemctl daemon-reload

```

We enable the service so that it will be loaded automatically during boot:

```

Copy sudo systemctl enable prometheus

```

Start Prometheus:

```

Copy sudo systemctl start prometheus

```

Your Prometheus server is ready to be used.

We have now installed Prometheus to monitor your instance. Prometheus provides a basic web server running onhttp://your.server.ip:9000 that provide access to the data collected by the software.

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