Grafana Integration with Linux Server (CPU Monitoring)

Project Goal

Linux Server High CPU Utilization Grafana visualize

Tools Used

- Linux Server (Ubuntu/CentOS)
- Prometheus
- Node Exporter
- Grafana

Step 1: Node Exporter (Linux Server)

1. User :

sudo useradd --no-create-home --shell /bin/false node_exporter

2. Node Exporter :

wget https://github.com/prometheus/node_exporter/releases/download/v*/node_exporter-*linux-amd64.tar.gz

3. Extract Move :

tar xvf node_exporter-*.tar.gz

sudo cp node_exporter-*/node_exporter /usr/local/bin/

4. Systemd Service :

[Unit]

Description=Node Exporter

[Service]

User=node_exporter

ExecStart=/usr/local/bin/node_exporter

[Install]

WantedBy=default.target

sudo systemctl daemon-reexec

sudo systemctl start node_exporter

sudo systemctl enable node_exporter

http://<your-server-ip>:9100

Step 2: Prometheus

1. Prometheus :

wget https://github.com/prometheus/prometheus/releases/download/v*/prometheus-*.tar.gz

2. Extract Move

3. prometheus.yml scrape_configs :

```
- job_name: 'node_exporter'
  static_configs:
    - targets: ['localhost:9100']
```

4. Start Prometheus:

./prometheus --config.file=prometheus.yml

Step 3: Grafana Connect

1. Grafana :

Ubuntu: sudo apt install -y grafana

2. Start :

sudo systemctl start grafana-server

sudo systemctl enable grafana-server

3. Grafana Web UI : http://<your-ip>:3000

(Default ID/Password: admin/admin)

4. Data Source Prometheus :

URL: http://localhost:9090

Step 4: Grafana CPU Utilization Dashboard

1. Dashboard Add Panel

2. Query :

```
rate(node_cpu_seconds_total{mode="user"}[1m])
```

3. Panel : 'CPU Usage'

4. Save

Output

CPU utilization real-time graph Grafana

Troubleshooting Tips

- Grafana Prometheus port firewall
- node_exporter
- Prometheus config file validate

Conclusion

Linux Server CPU collect Grafana visualize DevOps Monitoring