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Activity 9: Install, Configure, and Manage Performance Monitoring tools

1. Objectives

Create and design a workflow that installs, configure and manage enterprise performance tools using Ansible as an Infrastructure as Code (IaC) tool.

2. Discussion

Performance monitoring is a type of monitoring tool that identifies current resource consumption of the workload, in this page we will discuss multiple performance monitoring tool.

Prometheus

Prometheus fundamentally stores all data as timeseries: streams of timestamped values belonging to the same metric and the same set of labeled dimensions. Besides stored time series, Prometheus may generate temporary derived time series as the result of queries. Source: Prometheus - Monitoring system & time series database

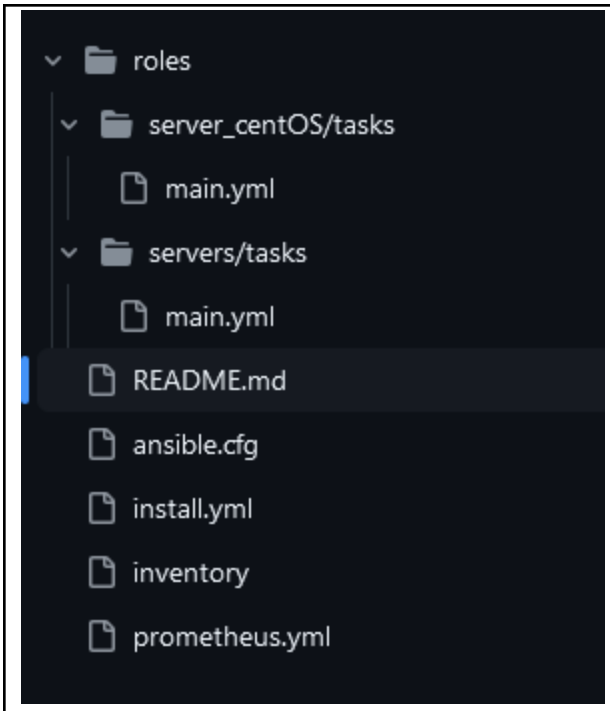
Cacti

Cacti is a complete network graphing solution designed to harness the power of RRDTool's data storage and graphing functionality. Cacti provides a fast poller, advanced graph templating, multiple data acquisition methods, and user management features out of the box. All of this is wrapped in an intuitive, easy to use interface that makes sense for LAN-sized installations up to complex networks with thousands of devices. Source: Cacti® - The Complete RRDTool-based Graphing Solution

3. Tasks

1. Create a playbook that installs Prometheus in both Ubuntu and CentOS. Apply the concept of creating roles.
2. Describe how you did step 1. (Provide screenshots and explanations in your report. Make your report detailed such that it will look like a manual.)
3. Show an output of the installed Prometheus for both Ubuntu and CentOS.
4. Make sure to create a new repository in GitHub for this activity.

4. Output (screenshots and explanations)

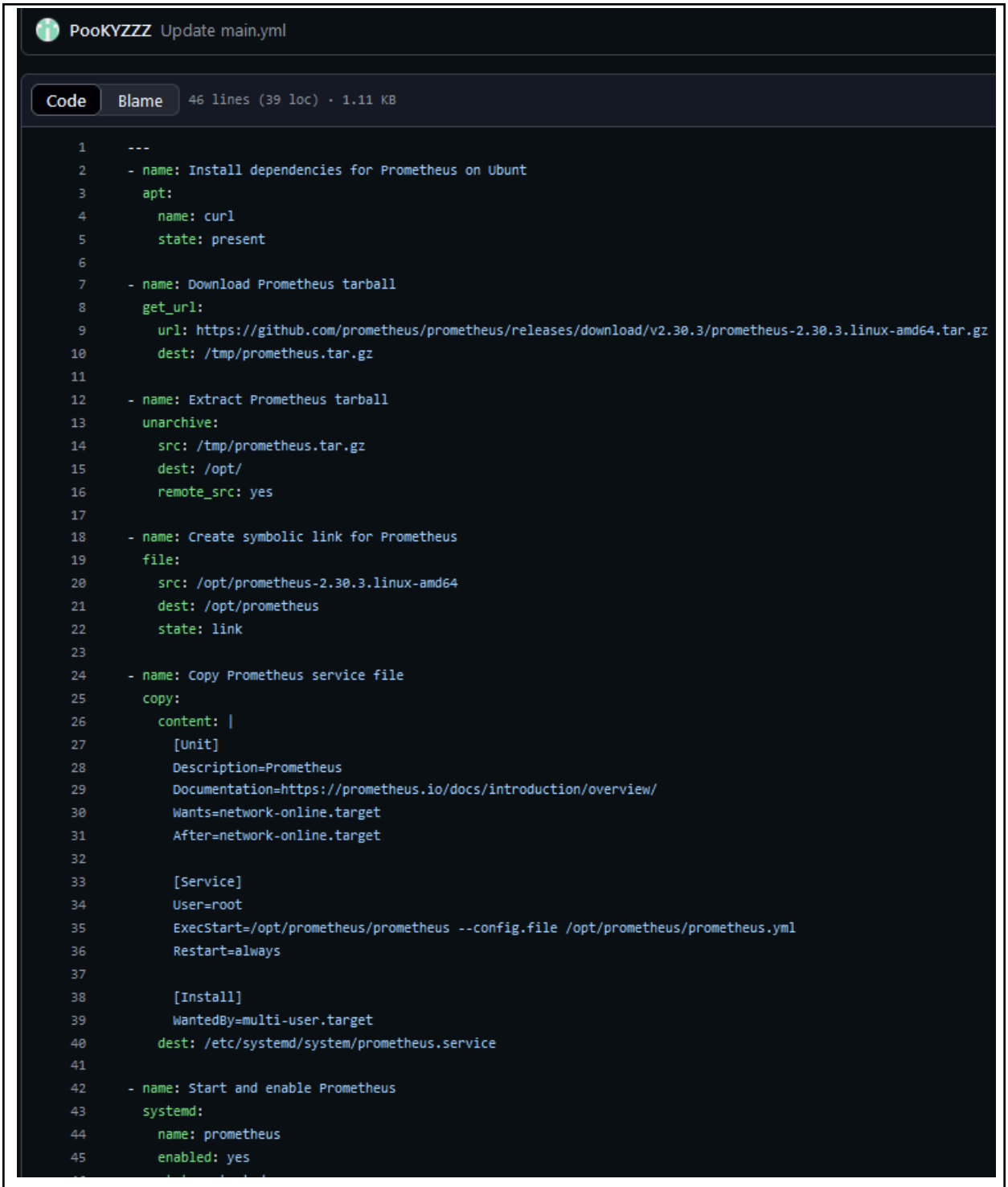


- same as activity 8, I created a new repository with the same format

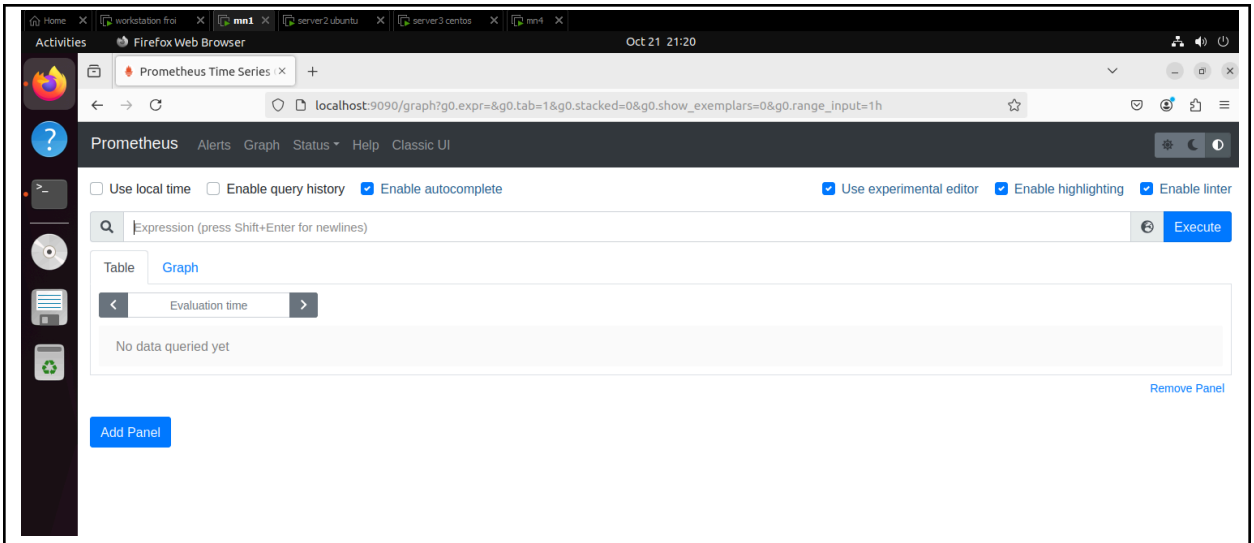
PooKYZZZ update main.yml

Code Blame 46 lines (39 loc) · 1.11 KB

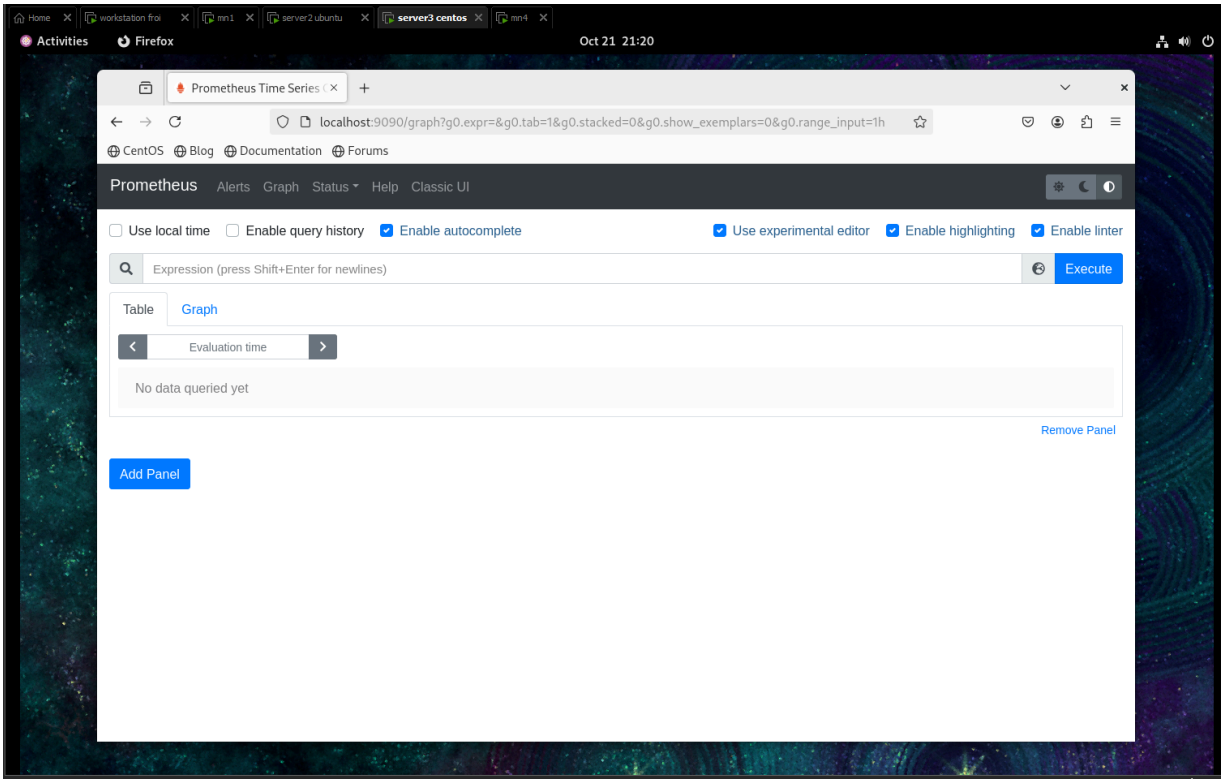
```yaml
---
- name: Install dependencies for Prometheus on CentOS
  yum:
    name: curl
    state: present

- name: Download Prometheus tarball
  get_url:
    url: https://github.com/prometheus/prometheus/releases/download/v2.30.3/prometheus-2.30.3.linux-amd64.tar.gz
    dest: /tmp/prometheus.tar.gz

- name: Extract Prometheus tarball
  unarchive:
    src: /tmp/prometheus.tar.gz
    dest: /opt/
    remote_src: yes

- name: Create symbolic link for Prometheus
  file:
    src: /opt/prometheus-2.30.3.linux-amd64
    dest: /opt/prometheus
    state: link

- name: Copy Prometheus service file
  copy:
    content: |
      [Unit]
      Description=Prometheus
      Documentation=https://prometheus.io/docs/introduction/overview/
      Wants=network-online.target
      After=network-online.target

      [Service]
      User=root
      ExecStart=/opt/prometheus/prometheus --config.file /opt/prometheus/prometheus.yml
      Restart=always

      [Install]
      WantedBy=multi-user.target
    dest: /etc/systemd/system/prometheus.service

- name: Start and enable Prometheus
  systemd:
    name: prometheus
    enabled: yes
    state: started
```



- I made a code for installation for prometheus os for ubuntu and centOS servers and put them inside the roles for better configurability and easy debugging.



This is my managenodes ubuntu, in here we can see that I've successfully installed the prometheus os when I inputted the localhost:9090



- This is my centOS managenode, in here I also successfully installed the prometheus os when I inputted the localhost:9090

Reflections:

Answer the following:

1. What are the benefits of having a performance monitoring tool?
    - Similar to nagiOS, Prometheus OS offers important insights into system performance, helping us to maintain high availability and optimal performance with its useful features.

Conclusions:

- In this activity, I again use ansible playbook to install and manage Prometheus on both Ubuntu and CentOS systems. By applying Infrastructure as Code principles, I ensured a consistent and efficient setup. This approach makes it easier for us to monitor system performance and maintain our high availability across different servers.