Day 7 Task: Understanding package manager and systemctl

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Tasks

1) You have to install docker and jenkins in your system from your terminal using package managers

To install Docker on Ubuntu, you can follow these steps:

Step 1. **Update the package manager index:**

sudo apt-get update

Step 2. **Install dependencies:**

sudo apt-get install -y apt-transport-https ca-certificates curl software-properties-common

Step 3. **Add the Docker GPG key:**

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -

Step 4. **Add the Docker repository:**

sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable"

Step 5. **Update the package manager index again:**

sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable"

Step 6. **Install Docker:**

sudo apt-get install -y docker

Step 7. **Start the Docker daemon:**

sudo systemctl start docker

Step 8. **Verify that Docker is installed and running correctly:**

sudo docker run hello-world

```
ubuntu@ubuntu:~/Desktop$ sudo docker run hello-world
[sudo] password for ubuntu:

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/
```

```
ubuntu@ubuntu:~/Desktop$ service docker status
● docker.service - Docker Application Container Engine
     Loaded: loaded (/lib/systemd/system/docker.service; enabled; preset: enabled)
     Active: active (running) since Mon 2023-01-09 01:23:23 IST; 55min ago
TriggeredBy: ● docker.socket
       Docs: https://docs.docker.com
   Main PID: 11244 (dockerd)
      Tasks: 9
     Memory: 26.4M
        CPU: 4.568s
     CGroup: /system.slice/docker.service
             └─11244 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
```

This should download and run a test image, and print a message indicating that the installation was successful.

To install Jenkins on Ubuntu, you can follow these steps:

Step 1. **Add the Jenkins repository to the package manager's list of sources:**

wget -q -O - https://pkg.jenkins.io/debian/jenkins.io.key | sudo apt-key add -
sudo sh -c 'echo deb https://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'

Step 2. **Update the package manager index:**

sudo apt-get update

Step 3. **Install Jenkins:**

sudo apt-get install -y jenkins

Step 4. **Start the Jenkins service:**

sudo systemctl start jenkins

Step 5. **Verify that Jenkins is running correctly:**

systemctl status jenkins

Step 6. **To access the Jenkins web interface, open a web browser and go to http://localhost:8080. You will be prompted to enter the initial password, which you can find by running the following command:**

sudo cat /var/lib/jenkins/secrets/initialAdminPassword

Copy and paste the password into the form on the web page, and then follow the instructions to complete the setup process.

2) Write a small blog or article to install these tools using package managers on Ubuntu and CentOS

Installing tools on Linux can be done in a number of ways, but using a package manager is often the most convenient and efficient method. In this article, we will demonstrate how to install Docker, Jenkins, and Java on Ubuntu and CentOS using the package manager.

Please check Task 1 for the detailed steps to install Docker, Jenkins on Ubuntu and CentOS using the package manager.

Installing Java on Ubuntu

1. **Add the Oracle Java PPA (Personal Package Archive) to the package manager's list of sources:**

   sudo add-apt-repository ppa:linuxuprising/java

2. **Update the package manager index:**

   sudo apt-get update

3. **Install the Java 8 runtime:**

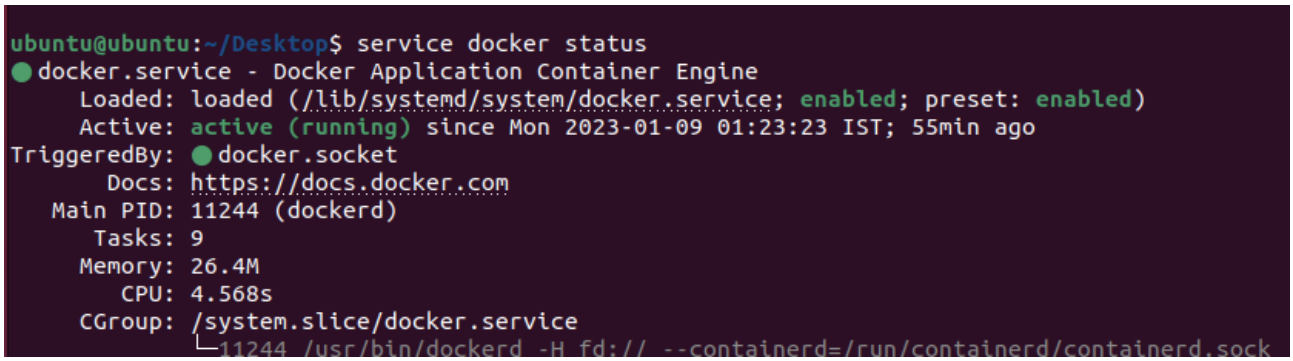
   sudo apt-get install -y oracle-java8-installer

4. **To set Oracle Java 8 as the default Java runtime, use the following command:**

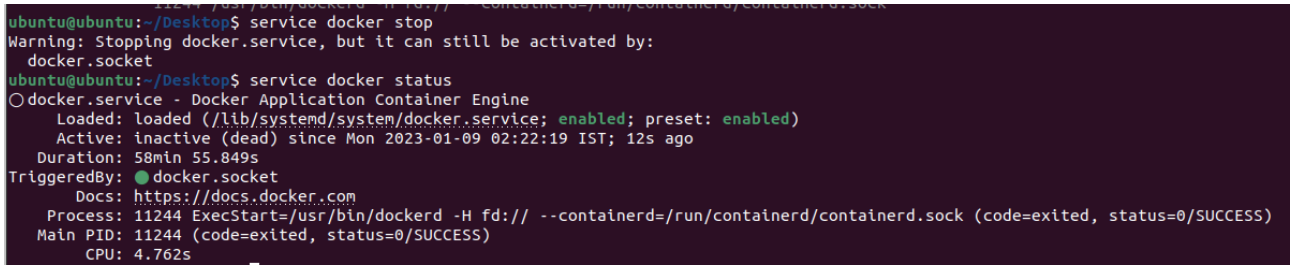
   sudo apt-get install oracle-java8-set-

2) stop the service jenkins and post before and after screenshots

Before Status of Docker service



After stopping the Docker service



3) read about the commands systemctl vs service

systemctl and service are two different tools that can be used to manage services (daemons) on a Linux system.

systemctl is a command-line utility that is part of the systemd system and service manager. It allows you to control the state of system services and daemons, and is the primary tool for managing services on systems that use systemd as the init system (such as Ubuntu and CentOS).

service is a command-line utility that is part of the sysvinit system. It allows you to control the state of system services and daemons, and is the primary tool for managing services on systems that use sysvinit as the init system (such as older versions of Ubuntu and CentOS).

Both systemctl and service can be used to start, stop, and restart services, as well as to display the status of a service. However, the syntax and options for these commands are slightly different.

For example, to start the Jenkins service using systemctl, you would use the following command:

systemctl start jenkins

To start the Jenkins service using service, you would use the following command:

service jenkins start

In general, it is recommended to use systemctl on systems that use systemd as the init system, and service on systems that use sysvinit. However, service is generally available on all systems, so it can be a good fallback option if you are not sure which init system is in use.