Managing Services

Linux Fundamentals

Welcome to Managing Services.

What you will learn

At the core of the lesson

You will learn how to:

- Explain common commands that are used for managing services on Linux
- Explain common commands that are used for monitoring services on Linux

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In this lesson, you will learn how to:
- Explain common commands that are used for managing services on Linux
- Explain common commands that are used for monitoring services on Linux

Managing services on Linux

This section covers common commands that you can use to manage services on Linux.

The systemctl command

```
~]$ systemctl
```

- The following is the syntax of the `systemctl` command: systemctl *<subcommand> <service name>*.
- The following are common troubleshooting tasks if services aren't working correctly:
    - Restart after any configuration change.
    - Restart when troubleshooting.
- The `systemctl` command has many subcommands, including **status, start, stop, restart, enable,** and **disable.**
- Services provide functionality such as networking, remote administration, and security.

You can also use the **service** command to manage services, but **systemctl** has more options and features.

Managing services with the systemctl command

```
[ec2-user@myLinux ~]$ sudo systemctl status httpd
sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset:
disabled)
   Active: inactive (dead)
     Docs: man:httpd.service(8)
[ec2-user@myLinux ~]$
```

The **sudo systemctl status httpd** command shows you that the service is not started.

```
[ec2-user@myLinux ~]$ sudo systemctl start httpd
[ec2-user@myLinux ~]$ sudo systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to
/usr/lib/systemd/system/httpd.service.
[ec2-user@myLinux ~]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset:
disabled)
   Active: active (running) since Thu 2021-06-10 14:03:04 UTC; 9s ago
```

The **sudo systemctl start httpd** command starts the service.

The **sudo systemctl enable httpd** command activates the service.

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After installing httpd (yum install httpd), the **sudo systemctl status httpd** command shows you that the service is not started or activated (to start the system at boot time).

The **sudo systemctl start httpd** command starts the service.

The **sudo systemctl enable httpd** command activates the service so that it is available after restarting the machine.

Demonstration: Using systemctl to Manage Services

Using the `systemctl` command, perform the following actions:

1. Show the running services.
2. List all services whether the service is active, exited, or failed.
3. List all active services.

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Full commands for each item:
1. **systemctl**
2. **systemctl list-units --type=service**
3. **systemctl list-units --type=service --state=active**

Monitoring on Linux

This section covers common commands that you can use to monitor services on Linux.

System performance information

Command	Description
lscpu	**List CPU information**
lshw	**List hardware**
du	**Check file and directory sizes**
df	**Display disk size and free space**
fdisk	**List and modify partitions on the hard drive**
vmstat	**Indicate use of virtual memory**
free	**Indicate use of physical memory**
top	**Display system's processes and resource usage**
uptime	**Indicate the amount of time that the system has been up, number of users, and central processing unit (CPU) wait time**

DESKTOP

HDD

CPU

CPU

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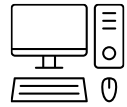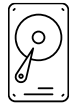
Familiarize yourself with these commands that you can use to monitor system performance.

Examples

Command	Description
lscpu	**List CPU information**
df	**Display disk size and free space**
top	**Display system's processes and resource usage**

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Theses screen captures show examples of the commands in use.

Amazon CloudWatch
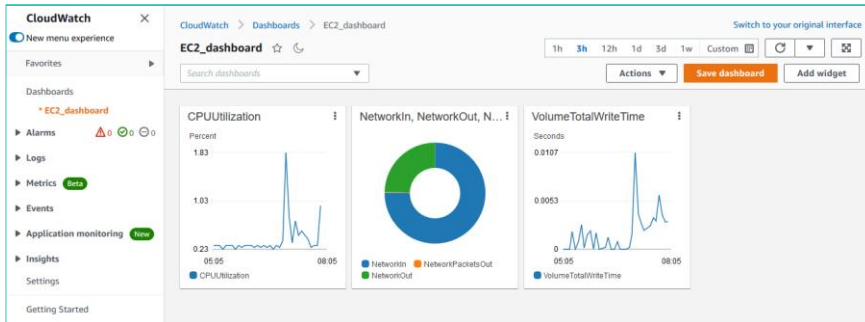
AWS CloudWatch monitors the health and performance of your AWS resources and applications.

- It offers monitoring of Amazon Elastic Compute Cloud (Amazon EC2) instances, such as CPU usage, disk reads, and writes.
- You can create alarms. For example, when CPU usage exceeds a certain threshold, a notification is sent through Amazon Simple Notification Service (Amazon SNS).

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Amazon Elastic Compute Cloud (Amazon EC2) is an AWS compute service that you can use to create secure and scalable virtual computing resources.

Amazon Simple Notification (Amazon SNS) is a notification service that you can use to send messages to other AWS services or to individuals through email and SMS.

The screen capture demonstrates the monitoring on an EC2 instance, but Amazon CloudWatch can monitor many other AWS services.

Later lessons will cover CloudWatch and other AWS topics.

Checkpoint questions
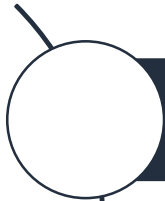
How might you use the `top` command when you are troubleshooting?

Why do you restart a service instead of restarting the entire computer?

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Answers:
1. If the CPU on the server is maximized, you can use the **top** command to determine what process might be responsible.
2. A server often hosts many services that users run. Restarting the entire server would mean that the reboot would also stop all the properly running services on the server. Restarting only the failing service means that the healthy services can continue to run.

Key takeaways

- You use the `systemctl` command to manage services in Linux.
- The `top` command provides a real-time view of processes that are running on the system.
- `df` is the *disk free* command that you use to check the available space on a hard drive.
- You use the `du` command to display the amount of space that a file or directory uses.

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Key takeaways include:
- You use the systemctl command to manage services in Linux.
- The top command provides a real-time view of processes that are running on the system.
- df is the *disk free* command that you use to check the available space on a hard drive.
- You use the du command to display the amount of space that a file or directory uses.

Thank you

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Thank you.