

Getting Started with Linux System Administration

OPTIMIZING YOUR LINUX SYSTEM



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LINUX SYSTEM ADMINISTRATOR

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**Need Some More
Background?**

**Need Some More
Background?**

Getting Started with Linux

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Background?**

Getting Started with Linux

**Getting Started with the Linux
Command Line**

Why Linux?

Why Linux?

**Most web and application
servers run on Linux**

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**Most Continuous
Integration/Continuous
Deployments run on Linux**

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**Most Continuous
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**Docker virtualizes kernel
resources of its Linux host**

Why Linux?

Most web and application servers run on Linux

Most Continuous Integration/Continuous Deployments run on Linux

Docker virtualizes kernel resources of its Linux host

All AWS EC2 instances run on Linux hosts (using Xen or KVM)

Module Overview



Module Overview



System performance optimization

Module Overview



System performance optimization

- Troubleshooting problems

Module Overview



System performance optimization

- Troubleshooting problems
- Preventing problems

Module Overview



System performance optimization

- Troubleshooting problems
- Preventing problems
- Understanding infrastructure capacity

Module Overview



System performance optimization

- Troubleshooting problems
- Preventing problems
- Understanding infrastructure capacity
- Searching log data

Module Overview



System performance optimization

- Troubleshooting problems
- Preventing problems
- Understanding infrastructure capacity
- Searching log data
- Controlling process lifecycles

Course Overview



Course Overview



Passwords

Course Overview



Passwords

Users and Groups

Course Overview



Passwords

Users and Groups

Security

Course Overview



Passwords

Users and Groups

Security

- **Permissions**

Course Overview



Passwords

Users and Groups

Security

- **Permissions**
- **Software updates**

Course Overview



Passwords

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Security

- **Permissions**
- **Software updates**
- **Network port audits**

Course Overview



Passwords

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Security

- **Permissions**
- **Software updates**
- **Network port audits**
- **Encryption**

Course Overview



Passwords

Users and Groups

Security

- Permissions
- Software updates
- Network port audits
- Encryption

Docker containers

Course Overview



Passwords

Users and Groups

Security

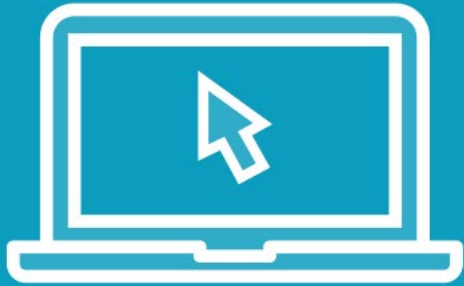
- **Permissions**
- **Software updates**
- **Network port audits**
- **Encryption**

Docker containers

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Monitoring System Resources

Demo



System performance metrics

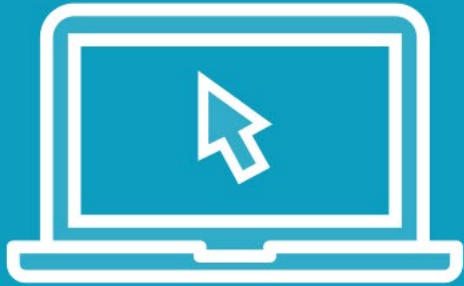
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Demo



System performance metrics

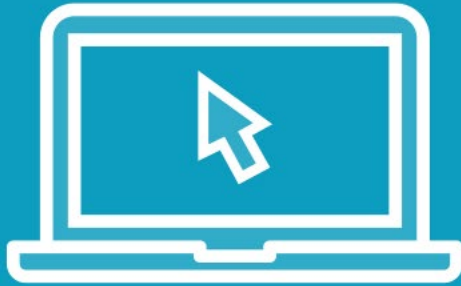
- RAM

-

-

-

Demo



System performance metrics

- RAM
- Storage
-
-

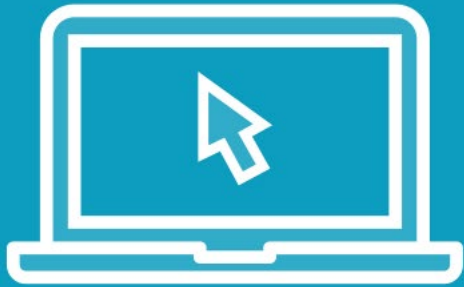
Demo



System performance metrics

- RAM
- Storage
- CPU
-

Demo



System performance metrics

- RAM
- Storage
- CPU
- Bandwidth

Why Monitor

Why Monitor

**Understand capacity
usage**

Why Monitor

**Understand capacity
usage**

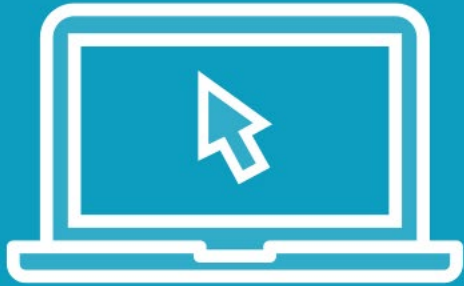
**Identify (and
terminate) rogue
processes**

Managing System Processes - Part One

Demo



Demo



Monitor process event data

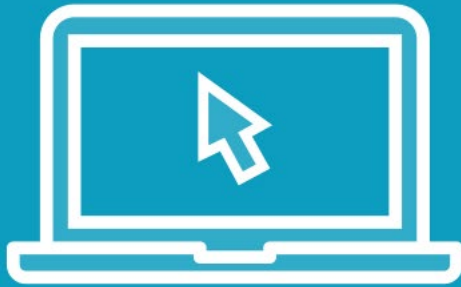
Demo



Monitor process event data

Terminate processes

Demo



Monitor process event data

Terminate processes

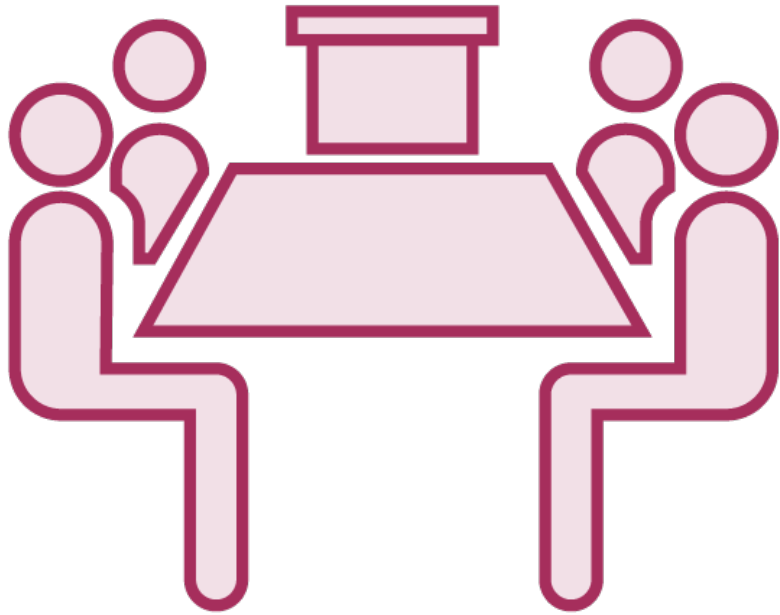
Enable/disable processes

Managing System Processes - Part Two

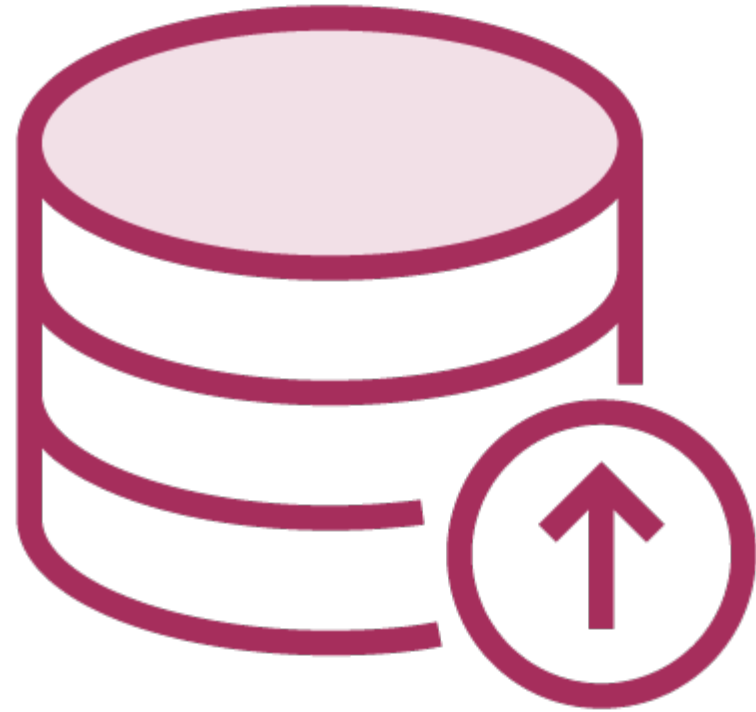
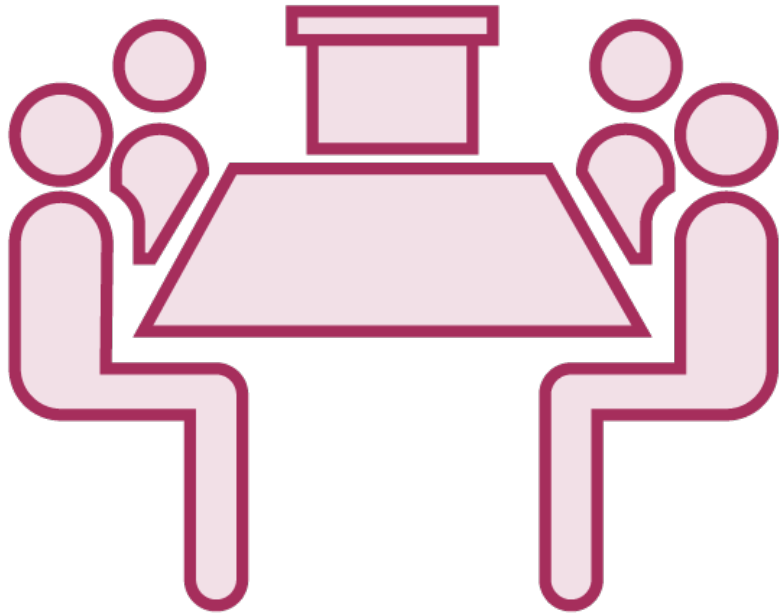
Managing Process Priorities

Balancing System Priorities

Balancing System Priorities



Balancing System Priorities



Module Review



Module Review



`less /proc/meminfo`

Module Review



```
less /proc/meminfo
```

```
df -ht ext4
```


Module Review



`less /proc/meminfo`

`df -ht ext4`

`iftop -i eth0`

Module Review



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Module Review



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`journalctl --since "10 minutes ago"`

Module Review



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killall yes
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systemctl disable apache2
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```
kill 11287
```

```
killall yes
```

```
systemctl disable apache2
```

```
nice -19 yes > /dev/null &
```