

KEAMANAN SISTEM DAN JARINGAN KOMPUTER

KUIS 1



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PROGRAM STUDI D3

JURUSAN TEKNOLOGI INFORMASI


POLITEKNIK NEGERI MALANG PSDKU LUMAJANG

## Taks 1

tryhackme.com/room/linuxfundamentalspart1

Room progress (16%)

Task 1 Introduction



Welcome to the first part of the "Linux Fundamentals" room series. You're most likely using a Windows or Mac machine, both are different in visual design and how they operate. Just like Windows, iOS and MacOS, Linux is just another operating system and one of the most popular in the world powering smart cars, android devices, supercomputers, home appliances, enterprise servers, and more.

We'll be covering some of the history behind Linux and then eventually starting your journey of being a Linux-wizard! This room will have you:

- Running your very first commands in an interactive Linux machine in your browser
- Teaching you some essential commands used to interact with the file system
- Demonstrate how you can search for files and introduce shell operators

Answer the questions below

Let's get started!

Answer needed

Correct Answer

```
* Documentation: https://help.ubuntu.com/
* Management: https://landscape.canonical.com/
* Support: https://ubuntu.com/

System information as of Thu Jul 10 10:00:00 UTC 2020

System load: 0.41
Usage of /: 27.2% of 9.6GB
Memory usage: 21%
Swap usage: 0%

* Ubuntu Pro delivers the most cost-effective and compliant
compliance features.

https://ubuntu.com/aws/pro

Expanded Security Maintenance for
Ubuntu 18.04 LTS: 0 updates can be applied immediately
Enable ESM Apps to receive additional security updates.
See https://ubuntu.com/esm or run: sudo apt-get install ubuntu-esm-apps

The list of available updates is managed by unattended-upgrades.
To check for new updates run: sudo apt-get update

tryhackme@linux1:~$
```

## Taks 2

tryhackme.com/room/linuxfundamentalspart1

Room progress (16%)

Task 2

### Where is Linux Used?

It's fair to say that Linux is a lot more intimidating to approach than Operating System's (OSs) such as Windows. Both variants have their own advantages and disadvantages. For example, Linux is considerably much more lightweight and you'd be surprised to know that there's a good chance you've used Linux in some form or another every day! Linux powers things such as:

- Websites that you visit
- Car entertainment/control panels
- Point of Sale (PoS) systems such as checkout tills and registers in shops
- Critical infrastructures such as traffic light controllers or industrial sensors

### Flavours of Linux

The name "Linux" is actually an umbrella term for multiple OS's that are based on UNIX (another operating system). Thanks to Linux being open-source, variants of Linux come in all shapes and sizes - suited best for what the system is being used for.

For example, Ubuntu & Debian are some of the more commonplace distributions of Linux because it is so extensible. I.e. you can run Ubuntu as a server (such as websites & web applications) or as a fully-fledged desktop. For this series, we're going to be using Ubuntu.

*Note: Ubuntu Server can run on systems with only 512MB of RAM!*

Similar to how you have different versions Windows (7, 8 and 10), there are many different versions/distributions of Linux.

Answer the questions below

Q: What year was the first release of a Linux operating system?

1991

Correct Answer

```
* Documentation: https://help.ubuntu.com/
* Management: https://landscape.canonical.com/
* Support: https://ubuntu.com/

System information as of Thu Jul 10 10:00:00 UTC 2020

System load: 0.41
Usage of /: 27.2% of 9.6GB
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The list of available updates is managed by unattended-upgrades.
To check for new updates run: sudo apt-get update

tryhackme@linux1:~$
```

## Taks 3

tryhackme.com/room/linuxfundamentalspart1

Room progress (16%)

**Task 3** Interacting With Your First Linux Machine (In-Browser)

This room has a Ubuntu Linux machine that you can interact with all within your browser whilst following along with this room's material.

However, to get started, simply press the green **Start Machine** button below.

▶ **Start Machine**

Once deployed, a card will appear at the top of the room:

Active Machine Information

Title	IP Address	Expires	
linuxfundpt1	10.10.144.238	1h 58m 49s	<div><div>?</div><div>Add 1 hour</div><div>Terminate</div></div>

This contains all of the information for the machine deployed in the room including the IP address and expiry timer - along with buttons to manage the machine. Remember to **Terminate** a machine once you are done with the room. More information on this can be found in the [tutorial](#) room.

For now, press **"Start Machine"** where you will be able to interact with your own Linux machine within your browser whilst following along with this room:

▶ **Start Machine**

This room has a Ubuntu Linux machine that you can interact with all within your browser whilst following along with this room's material.

However, to get started, simply press the green **"Deploy"** button on the top right of this task indicated by the arrow on the right:

▶ **Deploy**

Once deployed, a card will appear at the top of the room:

Active Machine Information

Title	IP Address	Expires	
linuxfundpt1	10.10.144.238	1h 58m 49s	<div><div>?</div><div>Add 1 hour</div><div>Terminate</div></div>

tryhackme@linux1:~\$

\* Documentation: <https://help.ubuntu.com>  
\* Management: <https://landscape.canonical.com>  
\* Support: <https://ubuntu.com/pro>

System information as of Thu Jul 11 09:46:

System load: 0.41 Processes  
Usage of /: 27.2% of 9.62GB Users log  
Memory usage: 21% IPv4 addr  
10  
Swap usage: 0%

\* Ubuntu Pro delivers the most comprehensive and compliance features.  
<https://ubuntu.com/aws/pro>

Expanded Security Maintenance for Applications is not enabled  
0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates  
See <https://ubuntu.com/esm> or run: `sudo pro status`

The list of available updates is more than a week old.  
To check for new updates run: `sudo apt update`

tryhackme@linux1:~\$

linuxfundpartv2 52min 45s

## Taks 4

tryhackme.com/room/linuxfundamentalspart1

Room progress (27%)

**Task 4** Interacting With Your First Linux Machine (In-Browser)

whoami Find out what user we're currently logged in as!

See the snippets below for an example of each command being used

Using echo

tryhackme@linux1:~\$ echo "Hello Friend!"

Using whoami to find out the username of who we're logged in as

tryhackme@linux1:~\$ whoami

Try this on your Linux machine now!

Answer the questions below

If we wanted to output the text **"TryHackMe"**, what would our command be?

echo "TryHackMe"

✓ Correct Answer

What is the username of who you're logged in as on your deployed Linux machine?

tryhackme

✓ Correct Answer

Hint

▶ **Start Machine**

This room has a Ubuntu Linux machine that you can interact with all within your browser whilst following along with this room's material.

However, to get started, simply press the green **"Deploy"** button on the top right of this task indicated by the arrow on the right:

▶ **Deploy**

Once deployed, a card will appear at the top of the room:

Active Machine Information

Title	IP Address	Expires	
linuxfundpt1	10.10.144.238	1h 58m 49s	<div><div>?</div><div>Add 1 hour</div><div>Terminate</div></div>

tryhackme@linux1:~\$

System load: 0.41  
Usage of /: 27.2%  
Memory usage: 21%  
Swap usage: 0%

\* Ubuntu Pro delivers the most comprehensive open source security and compliance features.  
<https://ubuntu.com/aws/pro>

Expanded Security Maintenance for Applications is not enabled  
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Enable ESM Apps to receive additional future security updates  
See <https://ubuntu.com/esm> or run: `sudo pro status`

The list of available updates is more than a week old.  
To check for new updates run: `sudo apt update`

tryhackme@linux1:~\$ echo "Hello Friend"

Hello Friend

tryhackme@linux1:~\$ whoami

tryhackme

tryhackme@linux1:~\$ echo "TryHackMe"

TryHackMe

tryhackme@linux1:~\$

linuxfundpartv2 49min 32s

## Taks 5

tryhackme.com/room/linuxfundamentalspart1

Room progress (50%)

Let's break this down:

1. We already know we're in "Documents" thanks to our terminal, but at this point in time, we have no idea where "Documents" is stored so that we can get back to it easily in the future.
2. I have used the "**pwd**" (**p**rint **w**orking **d**irectory) command to find the full file path of this "Documents" folder.
3. We're helpfully told by **Linux** that this "Documents" directory is stored at "/home/ubuntu/Documents" on the machine — great to know!
4. Now in the future, if we find ourselves in a different location, we can just use `cd /home/ubuntu/Documents` to change our working directory to this "Documents" directory.

Answer the questions below

On the Linux machine that you deploy, how many folders are there?

✓ Correct Answer

Which directory contains a file?

✓ Correct Answer 🔍 Hint

What is the contents of this file?

✓ Correct Answer

🔊 We cd command to navigate to this file and find out the new current working directory. What is the path?

✓ Correct Answer

```
0 updates can be applied immediately.
Enable ESM Apps to receive additional future security updates
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

tryhackme@linux1:~$ echo "Hello Friend"
Hello Friend
tryhackme@linux1:~$ whoami
tryhackme
tryhackme@linux1:~$ echo "TryHackMe"
TryHackMe
tryhackme@linux1:~$ ls
access.log folder1 folder2 folder3 folder4
tryhackme@linux1:~$ ls folder4
note.txt
tryhackme@linux1:~$ ~/folder4$ cat note.txt
-bash: /home/tryhackme/folder4$: No such file or directory
tryhackme@linux1:~$ cd folder4
tryhackme@linux1:~/folder4$ ~/folder4$ cat note.txt
-bash: /home/tryhackme/folder4$: No such file or directory
tryhackme@linux1:~/folder4$ ls
note.txt
tryhackme@linux1:~/folder4$ cat note.txt
Hello World!
tryhackme@linux1:~/folder4$ pwd
/home/tryhackme/folder4
tryhackme@linux1:~/folder4$
```

linuxfundpartv2 40min 16s

## Taks 6

tryhackme.com/room/linuxfundamentalspart1

Room progress (61%)

```
tryhackme@linux1:~$
```

Using a command like `cat` isn't going to cut it too well here. Let's say for example if we wanted to search this log file to see the things that a certain user/IP address visited? Looking through 244 entries isn't all that efficient considering we want to find a specific value.

We can use `grep` to search the entire contents of this file for any entries of the value that we are searching for. Going with the example of a web server's access log, we want to see everything that the IP address "81.143.211.90" has visited (note that this is fictional)

Using "grep" to find any entries with the IP address of "81.143.211.90" in "access.log"

```
tryhackme@linux1:~$ grep "81.143.211.90" access.log
81.143.211.90 - - [25/Mar/2021:11:17 + 0000] "GET / HTTP/1.1" 200 417 "-" "Mozilla/5.0 (Linux
tryhackme@linux1:~$
```

"Grep" has searched through this file and has shown us any entries of what we've provided and that is contained within this log file for the IP.

Answer the questions below

Use grep on "access.log" to find the flag that has a prefix of "THM". What is the flag? **Note:** The "access.log" file is located in the "/home/tryhackme/" directory.

✓ Correct Answer 🔍 Hint

🔊 I still haven't found what I'm looking for!

✓ Correct Answer

```
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.0-1064-aws x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:        https://ubuntu.com/pro

System information as of Tue Mar 18 08:01:04 UTC 2025

System load:  0.49           Processes:      117
Usage of /:   27.8% of 9.62GB Users logged in:  0
Memory usage: 29%           IPv4 address for ens5: 10.10.205.253
Swap usage:   0%

* Ubuntu Pro delivers the most comprehensive open source security and
  compliance features.

https://ubuntu.com/aws/pro

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

tryhackme@linux1:~$ find -name password.txt
tryhackme@linux1:~$ find -name *.txt
~/folder4/note.txt
tryhackme@linux1:~$ wc -l access.log
302 access.log
tryhackme@linux1:~$ grep "81.143.211.90" access.log
tryhackme@linux1:~$ grep "THM" access.log
13.127.130.212 - - [04/May/2021:08:35:26 +0000] "GET THM{ACCESS} lang=en HTTP/
1.1" 404 360 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36
(KHTML, like Gecko) Chrome/77.0.3865.120 Safari/537.36"
tryhackme@linux1:~$
```

linuxfundpartv2 56min 10s

## Taks 7

Room progress (43%)

Using the >> Operator

```
tryhackme@linux1:~$ echo hello >> welcome
```

Using cat to output the "welcome" file

```
tryhackme@linux1:~$ cat welcome
hey
hello
```

Answer the questions below

If we wanted to run a command in the background, what operator would we want to use?

✓ Correct Answer

If I wanted to replace the contents of a file named "passwords" with the word "password123", what would my command be?

✓ Correct Answer

Hint

Now if I wanted to add "tryhackme" to this file named "passwords" but also keep "passwords123", what would my command be?

✓ Correct Answer

Hint

Use the deployed Linux machine to put these into practice

✓ Correct Answer

System information as of Tue Mar 18 08:01:04 UTC 2025

System load: 0.49 Processes: 117  
Usage of /: 27.8% of 9.62GB Users logged in: 0  
Memory usage: 29% IPv4 address for ens5: 10.10.205.253  
Swap usage: 0%

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<https://ubuntu.com/aws/pro>

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See <https://ubuntu.com/esm> or run: `sudo pro status`

The list of available updates is more than a week old.  
To check for new updates run: `sudo apt update`

tryhackme@linux1:~\$ find -name password.txt  
tryhackme@linux1:~\$ find -name \*.txt  
./folder4/note.txt  
tryhackme@linux1:~\$ wc -l access.log  
302 access.log  
tryhackme@linux1:~\$ grep "81.143.211.90" access.log  
13.127.130.212 - - [04/May/2021:08:35:26 +0000] "GET /THM[ACCESS] lang=en HTTP/1.1" 404 360 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/77.0.3865.120 Safari/537.36"  
tryhackme@linux1:~\$ echo hey > welcome  
tryhackme@linux1:~\$ cat welcome  
hey  
tryhackme@linux1:~\$ echo hello >> welcome  
tryhackme@linux1:~\$ cat welcome  
hey  
hello  
tryhackme@linux1:~\$

## Taks 8

Room progress (48%)

Task 7 An Introduction to Shell Operators

Task 8 Conclusions & Summaries

Nice work on getting to this stage! We covered quite a bit for your first interactions with Linux. However, these are the most essential/functions you're going to be using whenever you interact with a Linux machine.

I hope this room hasn't been too daunting for you to power-on through with. It's as I previously mentioned, you're going to become familiar with these things very quickly because of how often you're going to be using them.

To quickly recap, we've covered the following:

- Understanding why Linux is so commonplace today
- Interacting with your first-ever Linux machine!
- Ran some of the most fundamental commands
- Had an introduction to navigating around the filesystem & how we can use commands like find and grep to make finding data even more efficient!
- Power up your commands by learning about some of the important shell operators.

Take some time to have a play around in this room. When you feel a little bit more comfortable, progress onto [Linux Fundamentals Part 2](#)

Answer the questions below

Have a play around!

✓ Correct Answer

System information as of Tue Mar 18 08:01:04 UTC 2025

System load: 0.49 Processes: 117  
Usage of /: 27.8% of 9.62GB Users logged in: 0  
Memory usage: 29% IPv4 address for ens5: 10.10.205.253  
Swap usage: 0%

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<https://ubuntu.com/aws/pro>

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See <https://ubuntu.com/esm> or run: `sudo pro status`

The list of available updates is more than a week old.  
To check for new updates run: `sudo apt update`

tryhackme@linux1:~\$ find -name password.txt  
tryhackme@linux1:~\$ find -name \*.txt  
./folder4/note.txt  
tryhackme@linux1:~\$ wc -l access.log  
302 access.log  
tryhackme@linux1:~\$ grep "81.143.211.90" access.log  
13.127.130.212 - - [04/May/2021:08:35:26 +0000] "GET /THM[ACCESS] lang=en HTTP/1.1" 404 360 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/77.0.3865.120 Safari/537.36"  
tryhackme@linux1:~\$ echo hey > welcome  
tryhackme@linux1:~\$ cat welcome  
hey  
tryhackme@linux1:~\$ echo hello >> welcome  
tryhackme@linux1:~\$ cat welcome  
hey  
hello  
tryhackme@linux1:~\$

## Taks 9

tryhackme.com/room/linuxfundamentalspart1

Room completed (100%)

Task 7 An Introduction to Shell Operators

Task 8 Conclusions & Summaries

Task 9 Linux Fundamentals Part 2

Visit part two of the Linux fundamentals series here! <https://tryhackme.com/room/linuxfundamentalspart2>

Answer the questions below

Terminate the machine deployed in this room from task 3.

No answer needed

✓ Correct Answer

Join Linux Fundamentals Part 2!

No answer needed

✓ Correct Answer

How likely are you to recommend this room to others?

1

2

3

4

5

6

7

8

9

10

Submit now

Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.0-1064-aws x86\_64)

\* Documentation: <https://help.ubuntu.com>

\* Management: <https://landscape.canonical.com>

\* Support: <https://ubuntu.com/pro>

System information as of Tue Mar 18 08:09:06 UTC 2025

System load: 0.0

Processes: 104

Usage of /: 27.8% of 9.62GB

Users logged in: 0

Memory usage: 29%

IPv4 address for ens5: 10.10.205.253

Swap usage: 0%

\* Ubuntu Pro delivers the most comprehensive open source security and compliance features.

<https://ubuntu.com/aws/pro>

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.

See <https://ubuntu.com/esm> or run: `sudo pro status`

The list of available updates is more than a week old.

To check for new updates run: `sudo apt update`

Failed to connect to <https://changelogs.ubuntu.com/meta-release-lts>. Check your Internet connection or proxy settings

Last login: Tue Mar 18 08:01:05 2025 from 10.100.2.254

tryhackme@linux1:~\$

linuxfundpartv2 7min 58s

Congratulations on completing Linux Fundamentals Part 1!!! 🎉

Points earned  
 88

Completed tasks  
 9

Room type  
 Walkthrough

Difficulty  
 Info

Streak  
 1

Leave Feedback

Next