

MATA KULIAH
KEAMANAN SISTEM DAN JARINGAN KOMPUTER



Disusun oleh:

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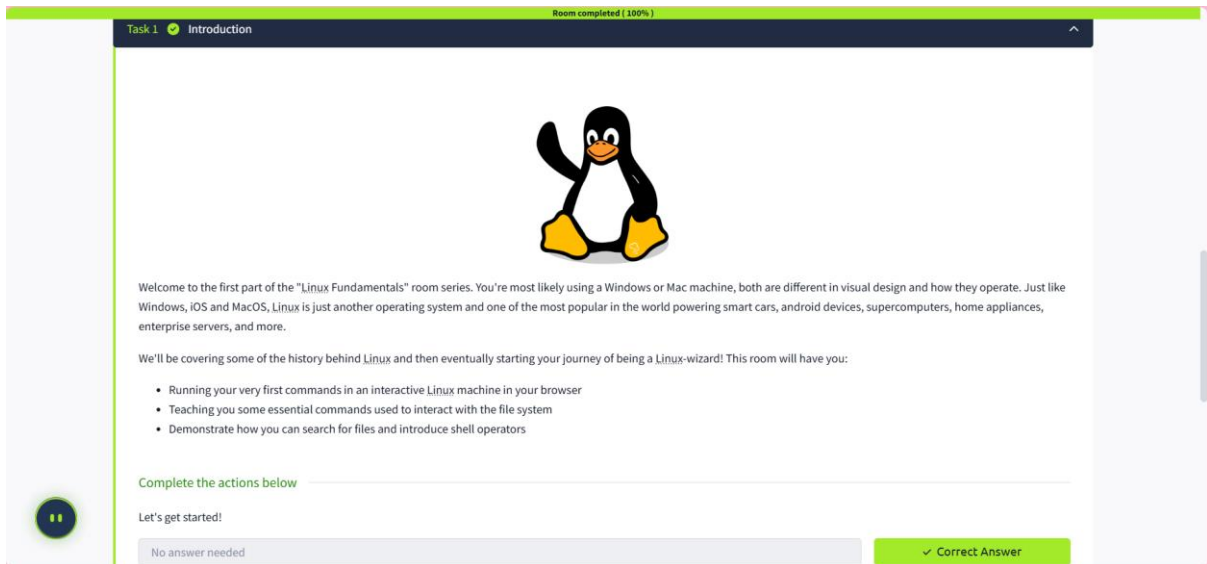
Kelas : 3B-Teknologi Informasi

PRODI D3 TEKNOLOGI INFORMASI
POLITEKNIK NEGERI MALANG

2025

Materi : <https://tryhackme.com/room/linuxfundamentalspart1>

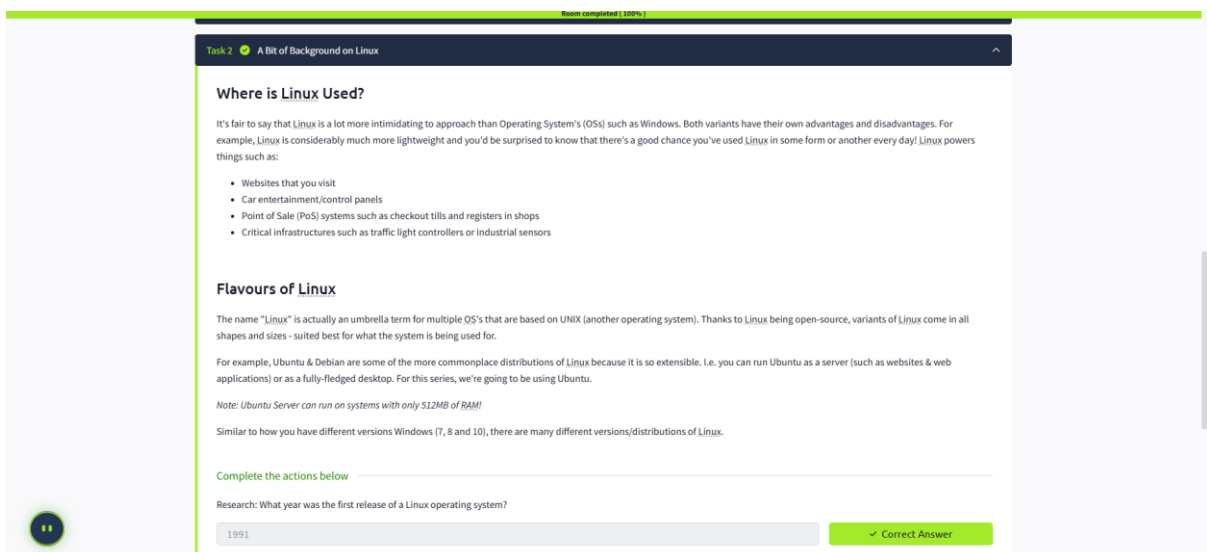
- 1) Untuk memahami materi modul Linux Fundamentals Part 1, dengan melihat video Learn the Linux Fundamentals Part 1.
- 2) Task 1 : Introduction



The screenshot shows the 'Task 1: Introduction' interface. At the top, it says 'Room completed (100%)'. The task title is 'Task 1 Introduction'. Below the title is a large image of the Linux penguin mascot. The main text reads: '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.' It then states: '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:' followed by a bulleted list: '• 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', and '• Demonstrate how you can search for files and introduce shell operators'. Below this is a section 'Complete the actions below' with the text 'Let's get started!'. At the bottom, there is a progress bar showing 'No answer needed' and a green button labeled '✓ Correct Answer'.

- 3) Task 2 : A Bit of Background on Linux

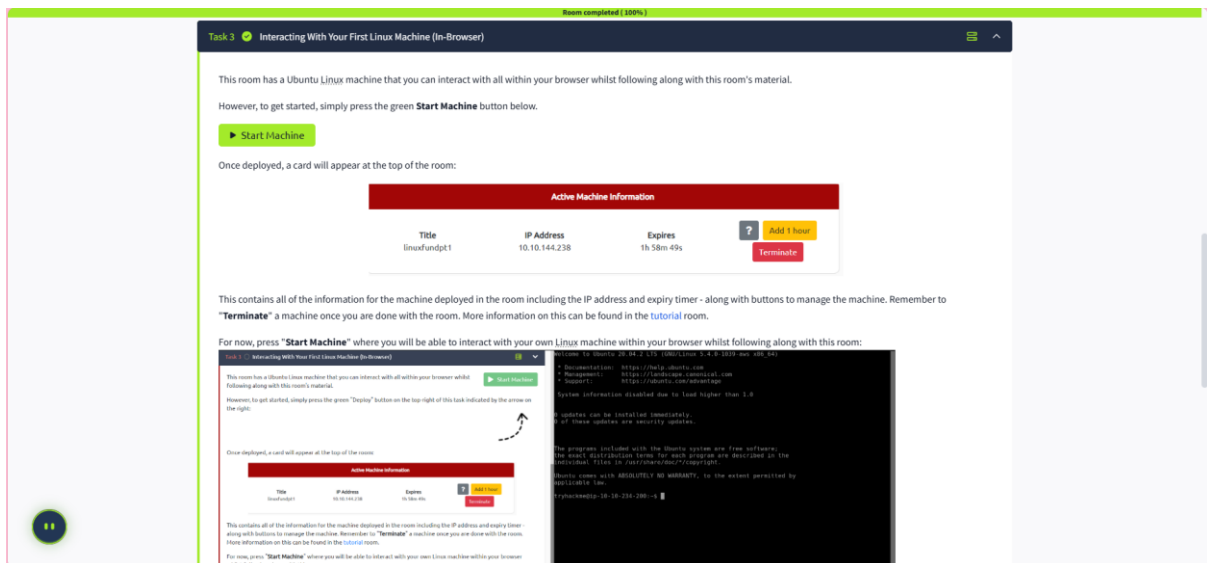
Memahami mengenai latar belakang linux yang didalamnya menjelaskan penggunaan linux serta hal-hal yang didukung oleh linux seperti Situs web yang telah kunjungi Hiburan mobil/panel control, Sistem Point of Sale (PoS) seperti checkout dan register di toko Infrastruktur penting seperti pengontrol lampu lalu lintas atau sensor industri. Dan di task 2 ini ada pertanyaan yang harus dijawab yaitu tahun berapa linux rilis?



The screenshot shows the 'Task 2: A Bit of Background on Linux' interface. At the top, it says 'Room completed (100%)'. The task title is 'Task 2 A Bit of Background on Linux'. Below the title is a section 'Where is Linux Used?' with the text: 'It's fair to say that Linux is a lot more intimidating to approach than Operating System's (OS) 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:' followed by a bulleted list: '• Websites that you visit', '• Car entertainment/control panels', '• Point of Sale (PoS) systems such as checkout tills and registers in shops', and '• Critical infrastructures such as traffic light controllers or industrial sensors'. Below this is a section 'Flavours of Linux' with the text: '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.' It then states: '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.' Below this is a note: 'Note: Ubuntu Server can run on systems with only 512MB of RAM!' and a line of text: 'Similar to how you have different versions Windows (7, 8 and 10), there are many different versions/distributions of Linux.' Below this is a section 'Complete the actions below' with the text 'Research: What year was the first release of a Linux operating system?'. At the bottom, there is a progress bar showing '1991' and a green button labeled '✓ Correct Answer'.

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

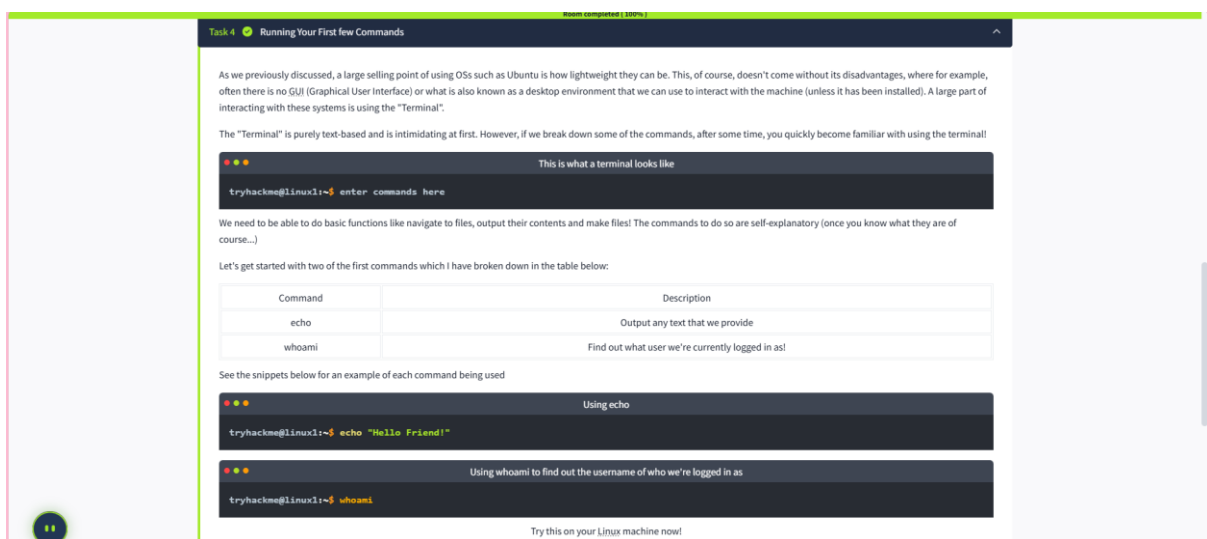
Memulai berinteraksi dengan mesin linux, dimana dengan memencet button “Start Machine”.



5) Task 4 : Running Your First few Commands

Menjalankan beberapa perintah sesuai dengan yang ada pada modul.

inter



6) Task 5 : Interacting With the Filesystem!

Melakukan interaksi dengan sistem file dimana sistem file ini meliputi seperti perintah ls (listing), cd (change directory/ubah direktori), cat (concatenate/menggabungkan), pwd (cetak direktori kerja).

Task 5 Interacting With the Filesystem! Room completed (100%)

So far we've only covered the "echo" and "whoami" commands. Not all that useful when you consider things that we need to do - Including navigating the filesystem, read and write to it as well.

In this task, we're going to be learning the commands so that we can do just that. Just like the previous task, I'll display the commands in the table in the next heading & show examples of these commands being used.

Interacting With the Filesystem

As I previously stated, being able to navigate the machine that you are logged into without relying on a desktop environment is pretty important. After all, what's the point of logging in if we can't go anywhere?

Command	Full Name
ls	listing
cd	change directory
cat	concatenate
pwd	print working directory

Listing Files in Our Current Directory (ls)

Before we can do anything such as finding out the contents of any files or folders, we need to know what exists in the first place. This can be done using the "ls" command (short for listing)

```
tryhackme@linux1:~$ ls
access.log  folder1  folder2  folder3  folder4
```

Selain itu, untuk melengkapi progress diharuskan untuk menjawab pertanyaan seperti berikut ini:

Complete the actions 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

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

✓ Correct Answer

7) Task 6 : Searching for Files

Menjalankan beberapa perintah untuk mencari file sesuai dengan panduan di modul.

Room completed (100%)

Task 6 Searching for Files

Although it doesn't seem like it so far, one of the redeeming features of Linux is truly how efficient you can be with it. With that said, you can only be as efficient as you are familiar with it of course. As you interact with OSs such as Ubuntu over time, essential commands like those we've already covered will start to become muscle-memory.

One fantastic way to show just how efficient you can be with systems like this is using a set of commands to quickly search for files across the entire system that our user has access to. No need to consistently use `cd` and `ls` to find out what is where. Instead, we can use commands such as `find` to automate things like this for us!

This is where Linux starts to become a bit more intimidating to approach -- but we'll break this down and ease you into it.

Using Find

The `find` command is fantastic in the sense that it can be used both very simply or rather complex depending upon what it is you want to do exactly. However, let's stick to the fundamentals first.

Take the snippet below; we can see a list of directories available to us:

```
tryhackme@linux1:~$ ls
Desktop Documents Pictures folder1
tryhackme@linux1:~$
```

1. Desktop
2. Documents
3. Pictures
4. folder1

Now, of course, directories can contain even more directories within themselves. It becomes a headache when we're having to look through every single one just to try and look for specific files. We can use `find` to do just this for us!

Let's start simple and assume that we already know the name of the file we're looking for -- but can't remember where it is exactly! In this case, we're looking for "passwords.txt"

If we remember the filename, we can simply use `find -name passwords.txt` where the command will look through every folder in our current directory for that specific file like so:

```
tryhackme@linux1:~$ ls
access.log  folder1  folder2  folder3  folder4
tryhackme@linux1:~$ pwd
/home/tryhackme
tryhackme@linux1:~$ ls folder3
tryhackme@linux1:~$ ls folder4
note.txt
tryhackme@linux1:~$ cat folder4/note.txt
Hello World!
tryhackme@linux1:~$ cd folder4
tryhackme@linux1:~/folder4$ pwd
/home/tryhackme/folder4
tryhackme@linux1:~/folder4$ cd ..
tryhackme@linux1:~$ grep "THM*" access.log
13.127.130.212 - - [04/May/2021:08:35:26 +0000] "GET THM{ACCESS} l
ang=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 hello
hello
tryhackme@linux1:~$
```

linuxfundpart1v2 46min 31s

Selain itu, menjawab pertanyaan yang ada pada modul.

Complete the actions 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.

THM{ACCESS} ✓ Correct Answer 🔍 Hint

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

No answer needed ✓ Correct Answer

8) Task 7 : An Introduction to Shell Operators

Menjalankan beberapa perintah shell operators yang meliputi `&`, `&&`, `>`, `>>`.

Task 7 An Introduction to Shell Operators Been completed (100%)

Linux operators are a fantastic way to power up your knowledge of working with Linux. There are a few important operators that are worth noting. We'll cover the basics and break them down accordingly to bite-sized chunks.

At an overview, I'm going to be showcasing the following operators:

Symbol / Operator	Description
&	This operator allows you to run commands in the background of your terminal.
&&	This operator allows you to combine multiple commands together in one line of your terminal.
>	This operator is a redirector - meaning that we can take the output from a command (such as using cat to output a file) and direct it elsewhere.
>>	This operator does the same function of the > operator but appends the output rather than replacing (meaning nothing is overwritten).

Let's cover these in a bit more detail.

Operator "&"

This operator allows us to execute commands in the background. For example, let's say we want to copy a large file. This will obviously take quite a long time and will leave us unable to do anything else until the file successfully copies.

The "&" shell operator allows us to execute a command and have it run in the background (such as this file copy) allowing us to do other things!

Operator "&&"

This shell operator is a bit misleading in the sense of how familiar is to its partner "&". Unlike the "&" operator, we can use "&&" to make a list of commands to run for example `command1` `&&` `command2`. However, it's worth noting that `command2` will only run if `command1` was successful.

Operator ">"

Menjawab setiap pertanyaan yang tertera pada modul.

Complete the actions 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

Now use the deployed Linux machine to put these into practice

✓ Correct Answer

9) Task 8 : Conclusions and Summaries

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](#)

Complete the actions below

I'll have a play around!

✓ Correct Answer

10) Task 9 : Linux Fundamentals Part 2

Pada task 9, diarahkan untuk melanjutkan dan mengunjungi modul Linux Fundamentals Part 2

<https://tryhackme.com/room/linuxfundamentalspart2>

11) SELESAI

