KUIS

KEAMANAN SISTEM DAN JARINGAN KOMPUTER

LINUX FUNDAMENTAL

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PROGRAM STUDI D3 TEKNOLOGI INFORMASI

JURUSAN TEKNOLOGI INFORMASI

POLITEKNIK NEGERI MALANG PSDKU LUMAJANG

2025

1. **Task 1 Introduction**

   Klik join this room untuk memulai course.

   Mempelajari beberapa perintah penting yang digunakan untuk berinteraksi dengan sistem file Menunjukkan cara mencari file dan memperkenalkan operator shell.

   Room progress (0%)

   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!

   | Join this room | Join this room |

2. **A Bit of Background on Linux**

   Linux jauh lebih ringan, dan Linux menggerakkan hal-hal seperti:

   - Situs web yang kamu kunjungi
   - Panel kontrol/hiburan mobil
   - Sistem Point of Sale (PoS) seperti kasir dan register di took
   - Infrastruktur penting seperti pengontrol lampu lalu lintas atau sensor industry

   Jawab pertanyaan : 1991 tahun dimana linux rilis untuk pertama kalinya

   Room progress (5%)

   - 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

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

   | 1991 | Submit |

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

Tekan "Start Machine" sehingga kamu bisa berinteraksi dengan mesin Linux langsung di browser sambil mengikuti materi di ruangan ini


```
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 06:16:07 UTC 2025

  System load:  0.06               Processes:             115
  Usage of /:   27.8% of 9.62GB    Users logged in:       0
  Memory usage: 28%                IPv4 address for ens5: 10.10.214
.238
  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

Last login: Tue Mar 18 06:16:08 2025 from 10.100.1.36
tryhackme@linux1:~$
```

4. **Running Your First few Commands**
   Perintah :

Echo: Menampilkan teks apa pun yang kita berikan
Whoami :Mengetahui sebagai pengguna siapa kita saat ini masuk

```
tryhackme@linux1:~$ echo "TryHackMe"
TryHackMe
tryhackme@linux1:~$ whoami
tryhackme
```

Jawab pertanyaan

Answer the questions below

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

```
echo "TryHackMe"
```

◁ Submit

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

```
tryhackme
```

5. **Interacting With the Filesystem!**
   Berinteraksi Dengan Sistem Berkas

Perintah	Nama Lengkap
ls	listing (menampilkan daftar)
cd	change directory (ubah direktori)
cat	concatenate (gabungkan/lihat isi)
pwd	print working directory (cetak direktori kerja)

- Listing

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

- Ubah direktori

```
tryhackme@linux1:~$ cd folder4
tryhackme@linux1:~/folder4$ ls
note.txt
```

- Menampilkan isi file

```
tryhackme@linux1:~/folder4$ cat note.txt
Hello World!
tryhackme@linux1:~/folder4$
```

- Mengetahui Path Direktori Saat Ini

```
tryhackme@linux1:~/folder4$ pwd
/home/tryhackme/folder4
tryhackme@linux1:~/folder4$
```

Jawab pertanyaan

Answer the questions below

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

```
4
```

◢ Submit

Which directory contains a file?

```
folder4
```

◢ Submit   ♀ Hint

What is the contents of this file?

```
Hello World
```

◢ Submit

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

```
/home/tryhackme/folder4
```

6. **Mencari File di Linux**

```
tryhackme@linux1:~$ find -name note.txt
./folder4/note.txt
tryhackme@linux1:~$ find -name *.txt
./folder4/note.txt
tryhackme@linux1:~$ wc -l access.log
302 access.log
```

Menggunakan grep

```
tryhackme@linux1:~$ grep "THM" /home/tryhackme/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"
```

Jawab pertanyaan

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.

THM{ACCESS}

✓ Correct Answer   ♀ Hint

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

No answer needed

✓ Correct Answer

7. **An Introduction to Shell Operators**

symbol	desc
& Operator Latar Belakang	menjalankan perintah di latar belakang terminal
&& Operator AND Logis	menggabungkan beberapa perintah dalam satu baris di terminal
> Redirect	Operator ini berfungsi sebagai pengalihan, yang berarti bahwa output dari suatu perintah (seperti cat atau echo) diarahkan ke sebuah file
>> Append Redirector)	Operator ini mirip dengan >, tetapi alih-alih mengganti isi file, operator ini menambahkan output ke akhir file

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?

`echo password123 > passwords`   ✓ Correct Answer   💡 Hint

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

`echo tryhackme >> passwords`   ✓ Correct Answer   💡 Hint

Now use the deployed Linux machine to put these into practice

No answer needed   ✓ Correct Answer

8. Conclusions & 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

Answer the questions below

⏸ e a play around!

No answer needed   ✓ Correct Answer

Congratulations on completing Linux Fundamentals Part 1!!! 🎉

Points earned	Completed tasks	Room type	Difficulty	Streak
⊕ 88	≔ 9	Walkthrough	📖 Info	🔥 1

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