QUIZ

KEAMANAN SISTEM DAN JARINGAN KOMPUTER

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TEKNOLOGI INFORMASI

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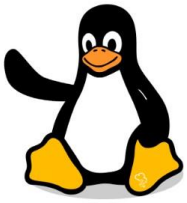
1. Task 1

Overview Linux about linux as universal



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!

No answer needed ✓ Correct Answer

2. Task 2

General information about linux and what is used for

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.

In the end of task there was a question about when does linux created, linux created in 1991

Answer the questions below

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

1991 ✓ Correct Answer

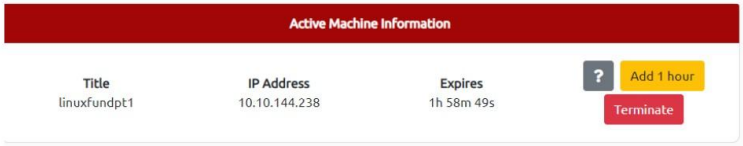
3. Task 3

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.

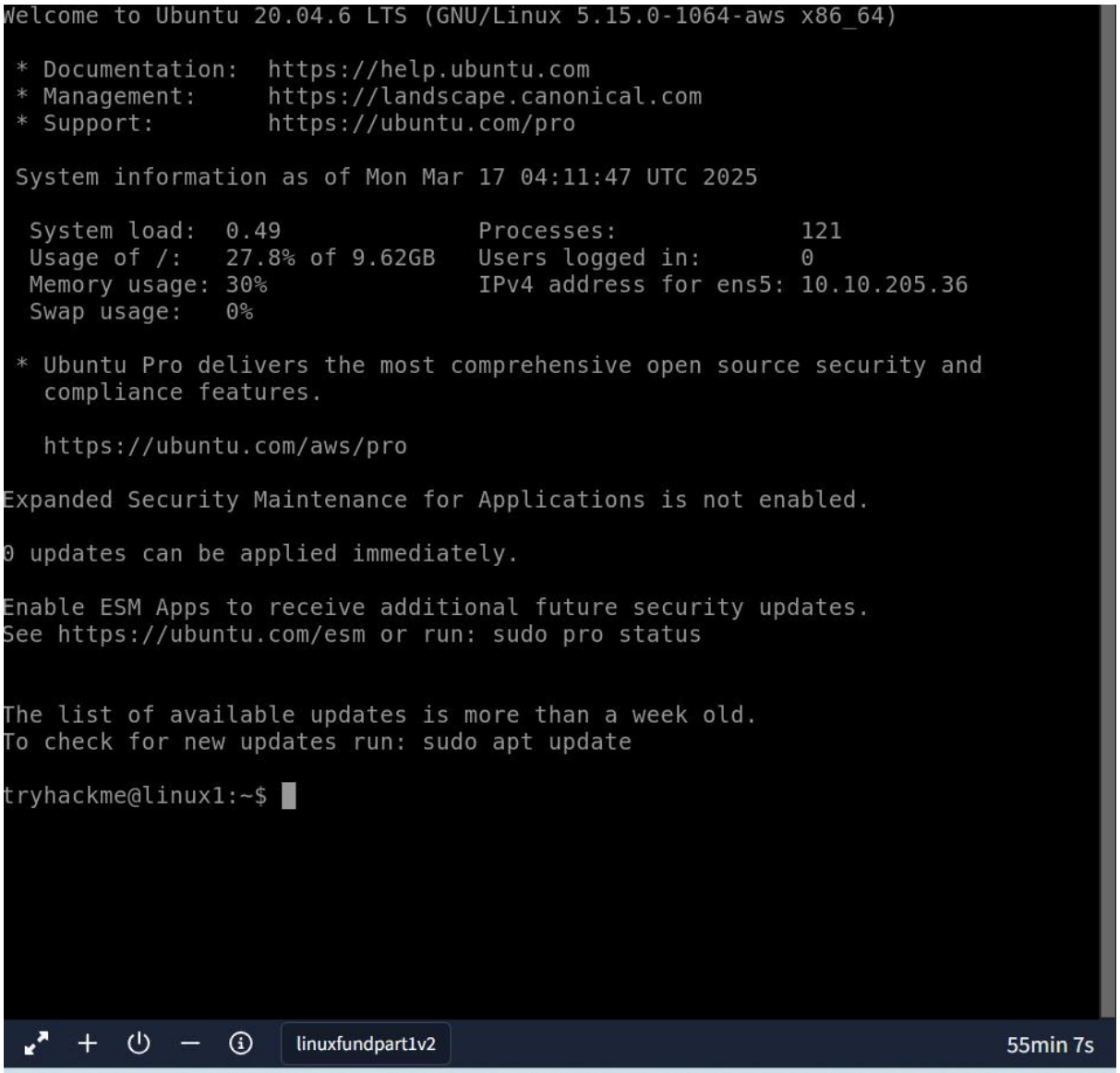
▶ Start Machine

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



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.

On this task we tasked to start our first linux machine, and being alert to terminate the vm each time we done the course



This is the first glance of the linux machine

4. Task 4

Let's get started with two of the first commands which I have broken down in the table below:

Command	Description
echo	Output any text that we provide
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

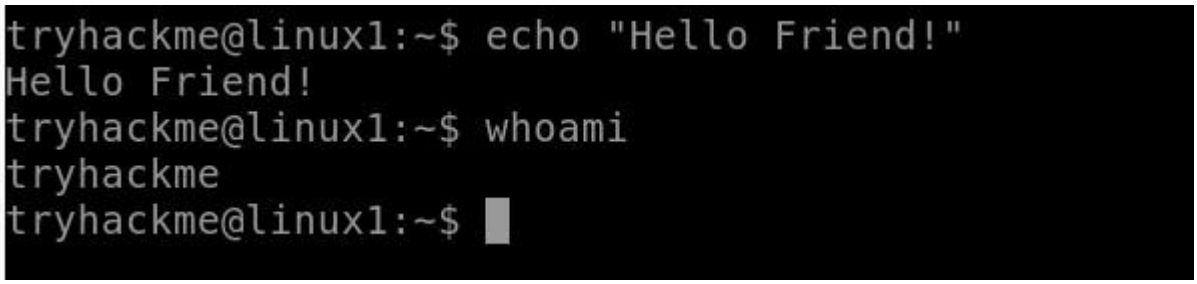
```
tryhackme@linux1:~$ echo "Hello Friend!"
```

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

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

Try this on your Linux machine now!

On Task 4 we're guided to do such things to answer followed questions, this the output on the vm



In the end of task, there are 2 question, to check our knowledge so far, the first one is to check if we can do such command but with custom text, the second one is to check are we already do whoami command

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

5. Task 5

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

In this task we learn about many things that we can do with filesystem, sucha as **ls** to display all folder and file on current directory, **cd** to shange directory, **cat** to show what a file contain, **pwd** to show you current directory

This is when i ‘ls’ in the vm

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

This is when I cd to folder1

This is when I cat a file inside folder4

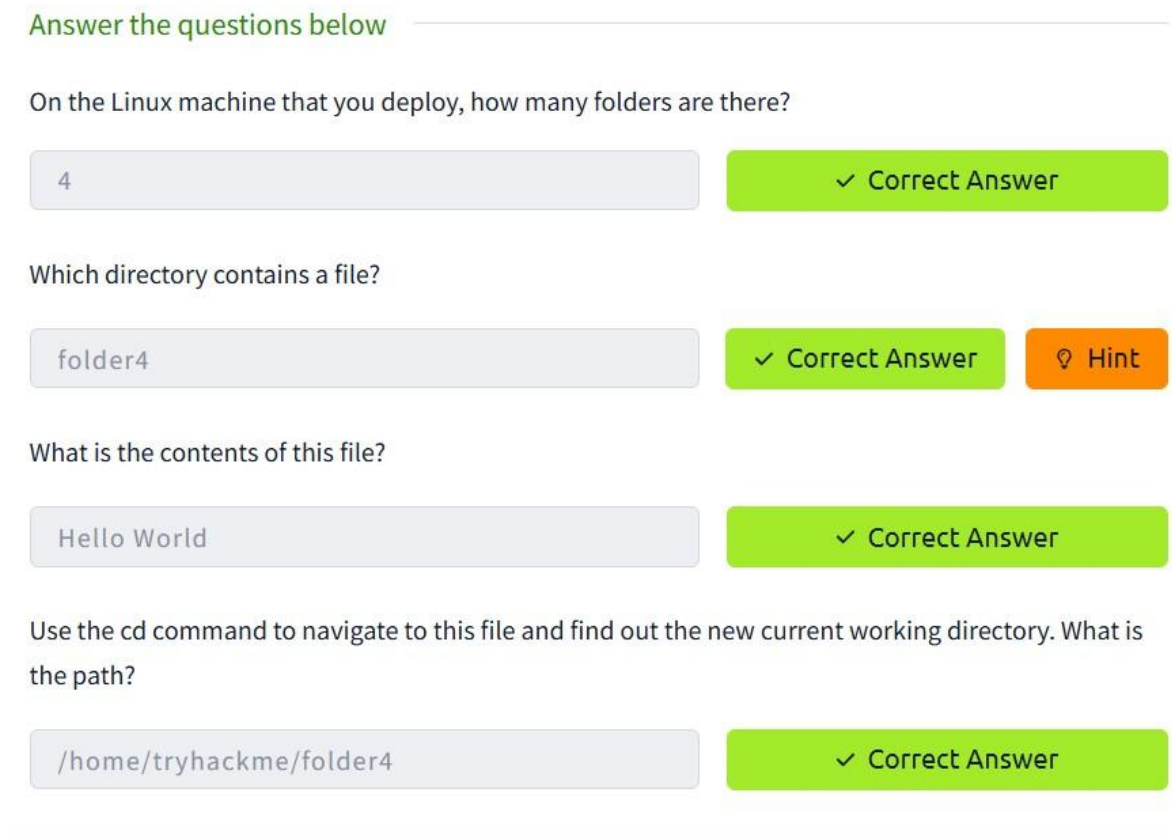
There was some question in the end of task

First question is about how many folders inside the vm

Second Question is to know which folder is contain a file

Third question is to ask you what is in the file

Fourth question is you need to pwd inside the folder contain the text file



6. Task 6

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:

Using "ls" to list the contents of the current directory

```
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:

On this task we given a command to find a file in the vm, here the implementation on the vm

```
tryhackme@linux1:~$ find -name note.txt
./folder4/note.txt
```

```
tryhackme@linux1:~$ find -name *.txt
./folder4/note.txt
```

Using Grep

Another great utility that is a great one to learn about is the use of `grep`. The `grep` command allows us to search the contents of files for specific values that we are looking for.

Take for example, the access log of a web server. In this case, the access.log of a web server has 244 entries.

Using "wc" to count the number of entries in "access.log"

```
tryhackme@linux1:~$ wc -l access.log
244 access.log
tryhackme@linux1:~$
```

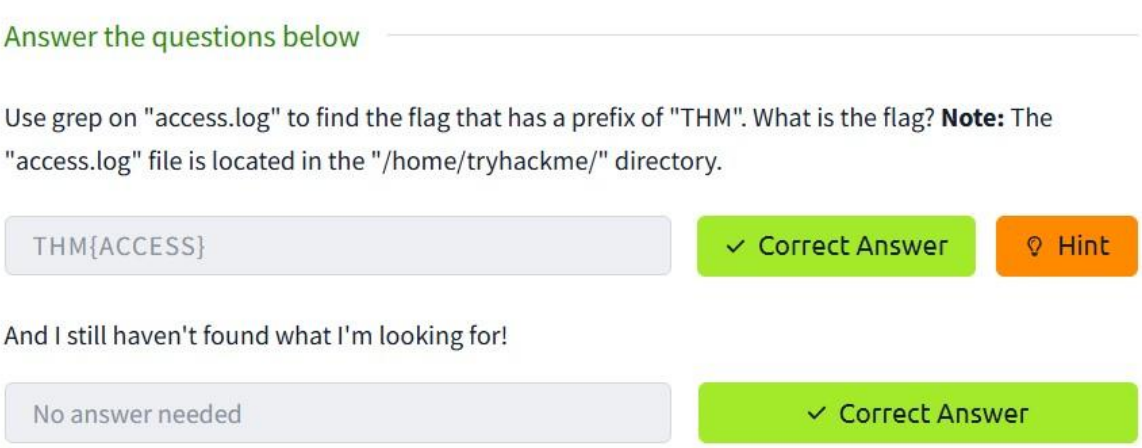
Using a command like `cat` isn't going to cut it too well here. Let's say for example if we wanted to search this log file to see the things that a certain user/IP address visited? Looking through 244 entries isn't all that efficient considering we want to find a specific value.

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)

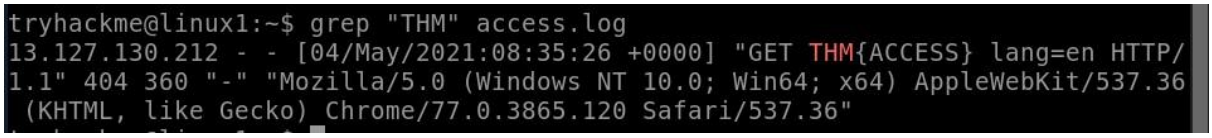
Using "grep" to find any entries with the IP address of "81.143.211.90" in "access.log"

```
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 "-"
tryhackme@linux1:~$
```

Next is grep, grep is to find a text inside the file, so if there was a file contains large number of students, we use grep to find which student in which line here's how the implementation inside vm



In the end of task there were 2 question, fist is to test our knowledge by making us to search THM using grep on access.log file, here was the result



Second is just no answer question, just click submit

7. Task 7

On seventh task we learn about shell operator

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).

The & operator is used to chain some command on the background, such as echo and cat this was the implementation

The && operator is the same as & but the different is with this operator, the second command is executed only if first command is success here the implementation

```
tryhackme@linux1:~$ cat folder1/note.txt && echo "success"
cat: folder1/note.txt: No such file or directory
tryhackme@linux1:~$ cat folder4/note.txt && echo "success"
Hello World!
success
tryhackme@linux1:~$
```

The > operator is to insert first command value if it has an output to a file, and will overwrite the file If the file is exists

```
tryhackme@linux1:~$ echo "halo" > halo
tryhackme@linux1:~$ cat halo
halo
tryhackme@linux1:~$ echo "hello world" >
-bash: syntax error near unexpected token `newline'
tryhackme@linux1:~$ echo "hello world" > halo
tryhackme@linux1:~$ cat halo
hello world
tryhackme@linux1:~$
```

The >> operators the same as > but this one is add the value to new line of file

```
tryhackme@linux1:~$ echo "hello world222" >> halo
tryhackme@linux1:~$ cat halo
hello world
hello world222
```

8. Task 8

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

Task 8 is contain the summary and conclusion of this course

9. Task 9

Task 9 is alerted us to terminate the machine and an advertisement to the next course, which is paid course