Linux Shells

So the rightful question I must first ask, is what is a Linux shell? Think of a shell as:
Shell helps us in the same way it helps cook food, giving you some recipe suggestions. It uses CLI to perform operations in a Linux system, giving us more power and control while carrying out the task.

So, who is the facilitator between a user and the OS? **A shell!**

So most shells use **bash** which translates to: **bourne again shell** as their default shell.

So carrying on with TryHackMe attack box, we have a login and password / credentials in order to experiment using the various shells.

Inputting the command: **pwd**
Which gives us the current directory as: **root**
If we remember root is the main superuser account.

Anyway, let's log into the shell service!
ssh user@10.10.89.129
Surprisingly I remember this, I usually have difficulty remembering exact commands but this is just proving practice and using overtime does actually make a difference. Seems silly but it is evident.
Then we type in the password: **user@Tryhackme**
Then we are now logged into the credentials provided by the THM attack box.

So now we have a few questions to answer:
What is the default shell in most linux distributions? That would be a "bash" shell. Or bourne again shell.

Which command utility is used to list down the contents of a directory? That would be "ls" or I think of it as "list" kind of how "dir" is used in windows.

Which command utility can help you search for anything in a file? The grep command is used to actively search for a file eg grep "flag.txt".

Type of Linux Shells

So we know about the bash shell being the default in most Linux systems but there is actually multiple types.

HOW TO SEE WHAT SHELLS ARE AVAILABLE
It's important to note that multiple shells are installed in different Linux distributions, we can use the following command: **echo $SHELL** to see which shell we are currently using or!
cat /etc/shells Shows us which shells are available to use.

HOW TO SWITCH SHELL
To permanently change our default shell we can use the command:
chsh -s /usr/bin/zsh

TYPES OF SHELL
Bourne Again Shell: Usually the default on most Linux systems, when you open the terminal, bash is present for your to enter commands to. Bash came as an enhanced replacement for others. So let's identify what is good about Bash:

- Widely Used with scripting capabilities
- Offers a tab completion feature, meaning if you are in the middle of completing a command, you can press tab and it will automatically complete the command based on a possible match or give you suggestions on completing it.
- Keeps the history of the file and logs all your commands. Type "history" to view the history of logs and commands.

Friendly Interactive Shell (FISH) Not default in most Linux Systems, more focussing on User Friendliness than other shells.

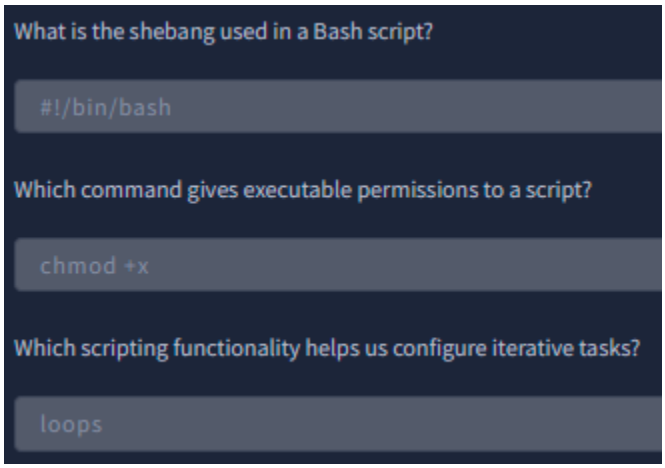
- Offers simple syntax, good for beginners.
- Has auto spell correction for commands you write.
- Can customize command prompt with cool schemes.
- Syntax highlighting features different parts of a command based on the roles. Can improve readability.
- Also provides scripting, tab completion, and command history functionality.

Z Shell: (Zsh) Is not installed by default but is considered a modern shell that combines functionality of some previous shells.

- Zsh provides advanced tab completion and is also capable of writing scripts.
- Also provides spell check for commands.
- Offers extensive customisation that may make it slower.
- Provides tab completion

How to create a script:
Simply do this:
nano first_script.sh
This creates a file, using a .sh or shell file.
#!/bin/bash
So now we can write our first script.
echo “Input”
Ctrl-X -> Y -> ENTER = SAVE

Script execution:
./loop_script.sh



Conclusion:
I really enjoyed this module, as it showed how to use scripts in shells, which can be used to both authenticate applications as well as exploit them using bash scripts. I had fun with the practical example of testing my resolve in trying different things to navigate, find the logs, follow instructions and finally use my own knowledge to overcome obstacles. I am gradually seeing the improvement in my progress, and am loving the determination!