

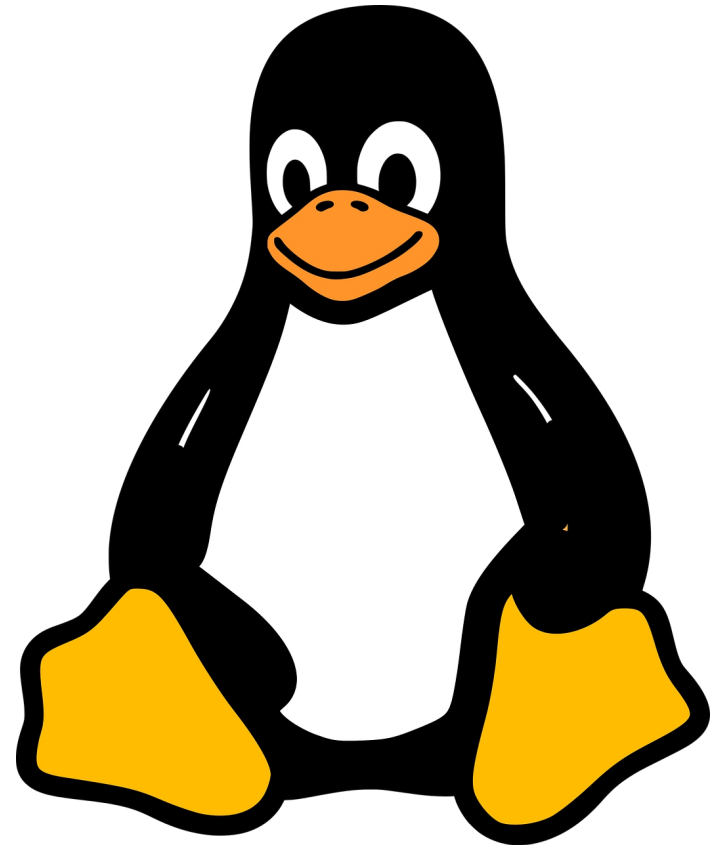
HackerFrogs Afterschool Linux OS Operations Intro

Class:
Linux OS Operations

Workshop Number:
AS-LIN-00

Document Version:
1.0

Special Requirements:
None



Welcome to HackerFrogs Afterschool!

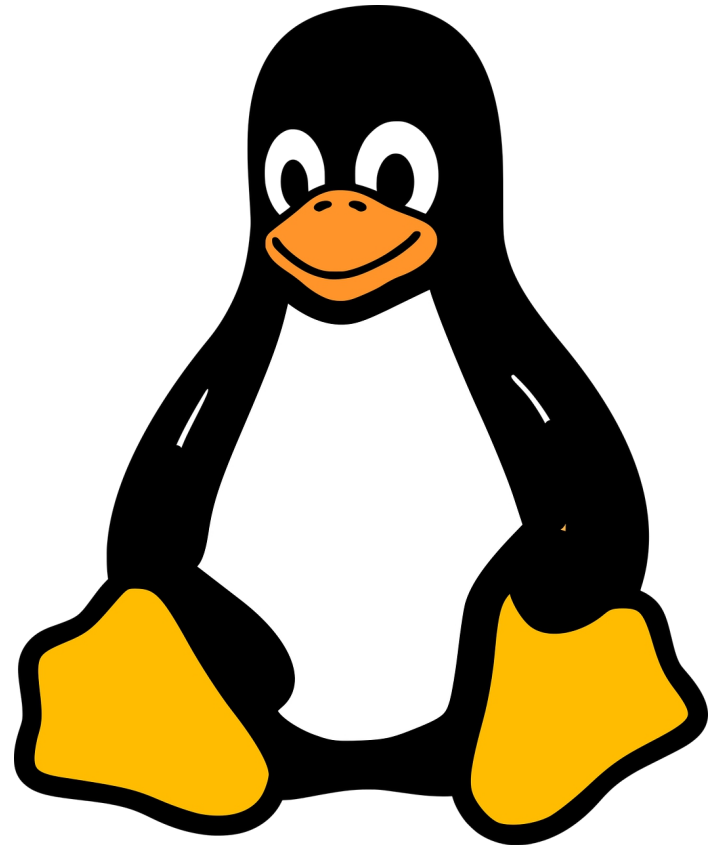
HackerFrogs Afterschool is a cybersecurity program for learning beginner cybersecurity skill across a wide variety of subjects.

This video is the intro to Linux OS operations.



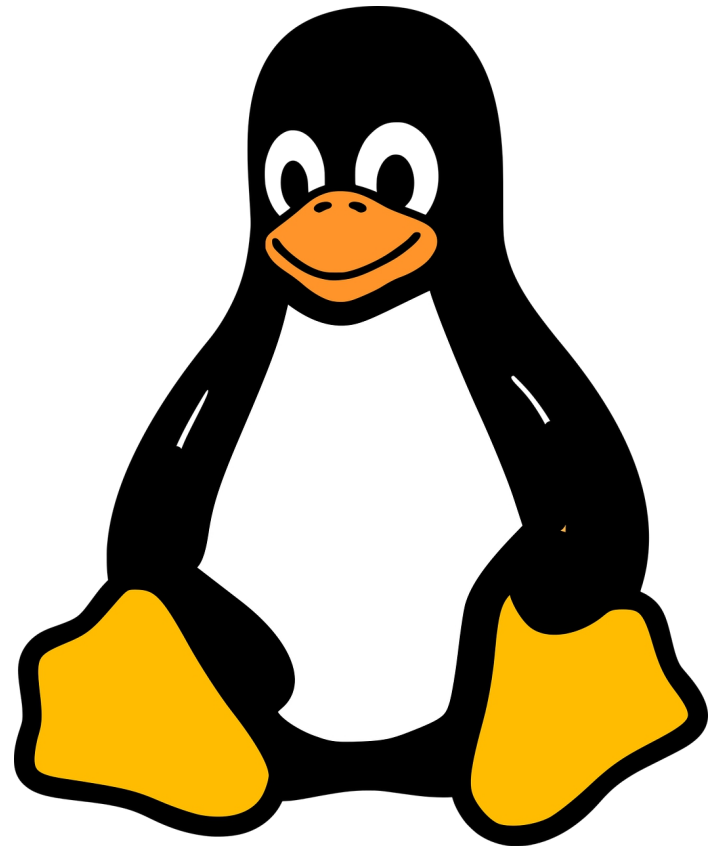
What is Linux?

Like Windows and MacOS, Linux is a computer operating system (OS). However, unlike Windows and MacOS, Linux is free, and open-source, which means its source code can be viewed (and potentially modified) by anybody.



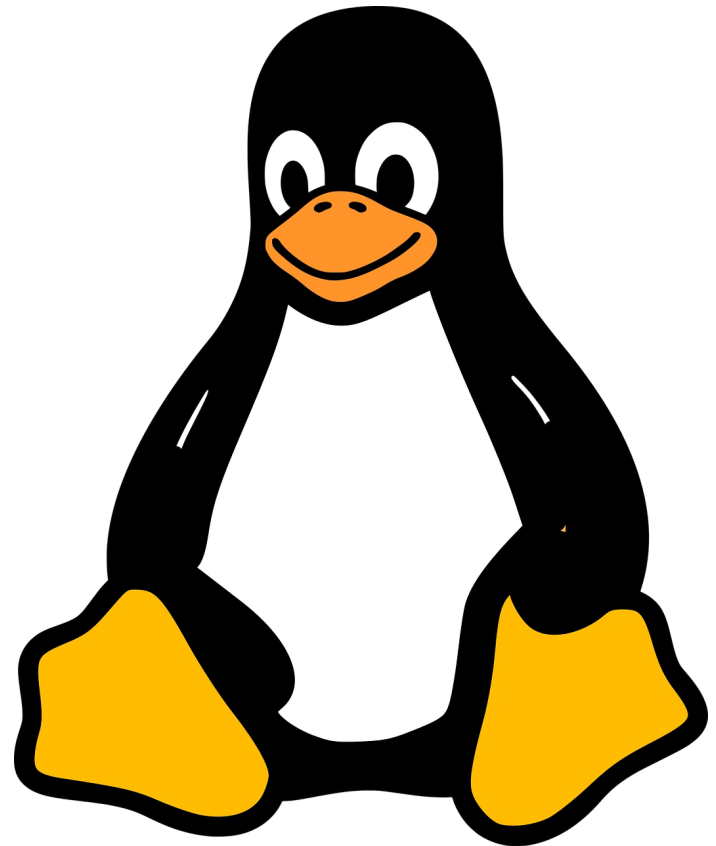
What is Linux?

Linux is a modular OS, which means that software components can be very easily added, updated or removed to fit the user's needs.



What is Linux?

This has led to the development of different distributions (variations) of Linux that cater to different groups of users.



What is Linux?

Specifically,
Cybersecurity-oriented
distributions of Linux exist,
which are ideal for
cybersecurity student use.



Why Learn Linux for Cybersecurity?

- Linux is easily accessible to students, since it's free
- Many cybersecurity tools / software are available to Linux users, most of which are free
- Cybersecurity-oriented distributions of Linux are readily available

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What are CTFs?

HackerFrogs
Afterschool classes
prefer to incorporate
CTF games into
classes for a more
interactive
experience, but
what are CTFs?



What are CTFs?

Cybersecurity Capture The Flag (CTF) games are training exercises where the goal of the exercise is to “capture the flag” through use of cybersecurity skills.



What are CTFs?

In this context,
“capture” means to
gain access to a file
or other resource,
and “flag” refers to
a secret phrase
or password.



Bandit CTF

The CTF game we will be playing to learn basic Linux skills is called Bandit, which is hosted on the OverTheWire CTF network. The OverTheWire network hosts several different CTF games.



Bandit CTF

The Bandit CTF game is made up of many levels of increasing difficulty. The initial levels (0-10) cover the target Linux commands for our workshops.



Interacting with Bandit CTF

To connect to the Bandit CTF server, we will need to do the following two tasks:

- 1) Start a command-line interface terminal (CLI) on our computer
- 2) Using the CLI, connect to the Bandit server using the SSH program

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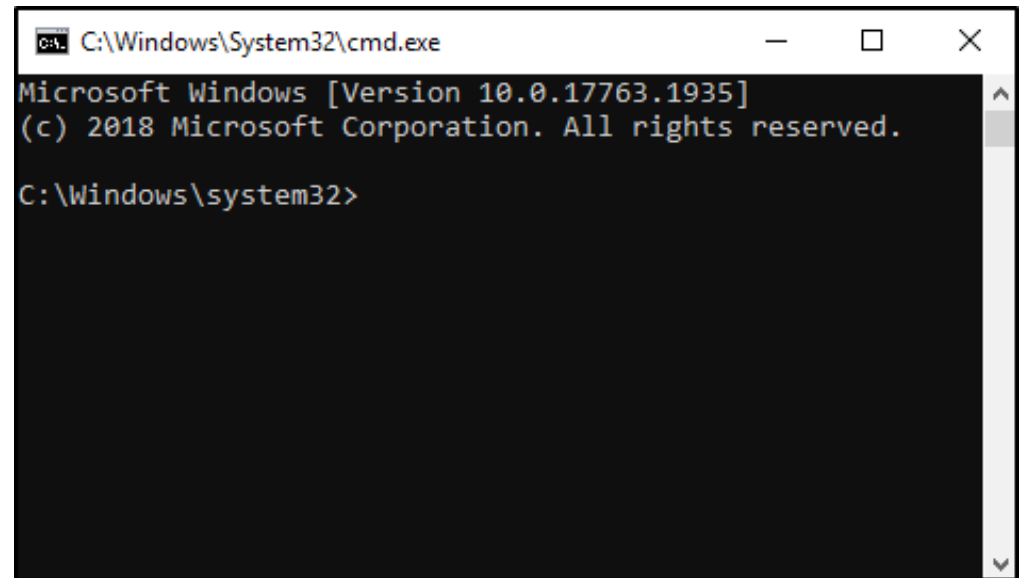
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What's a Command-Line Interface?

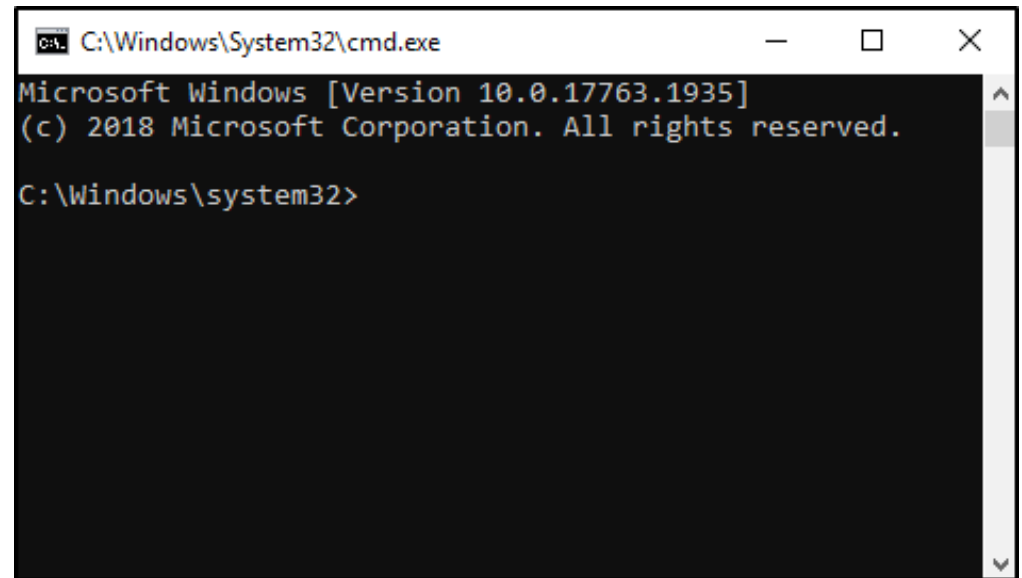
The command-line interface (CLI) is a text-only method of executing commands on a computer.

A screenshot of a Windows Command Prompt window. The title bar at the top reads "C:\Windows\System32\cmd.exe" and includes standard window controls (minimize, maximize, close). The main area has a black background with white text. It displays "Microsoft Windows [Version 10.0.17763.1935]" and "(c) 2018 Microsoft Corporation. All rights reserved." followed by the prompt "C:\Windows\system32>".

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.17763.1935]
(c) 2018 Microsoft Corporation. All rights reserved.
C:\Windows\system32>
```

What's a Command-Line Interface?

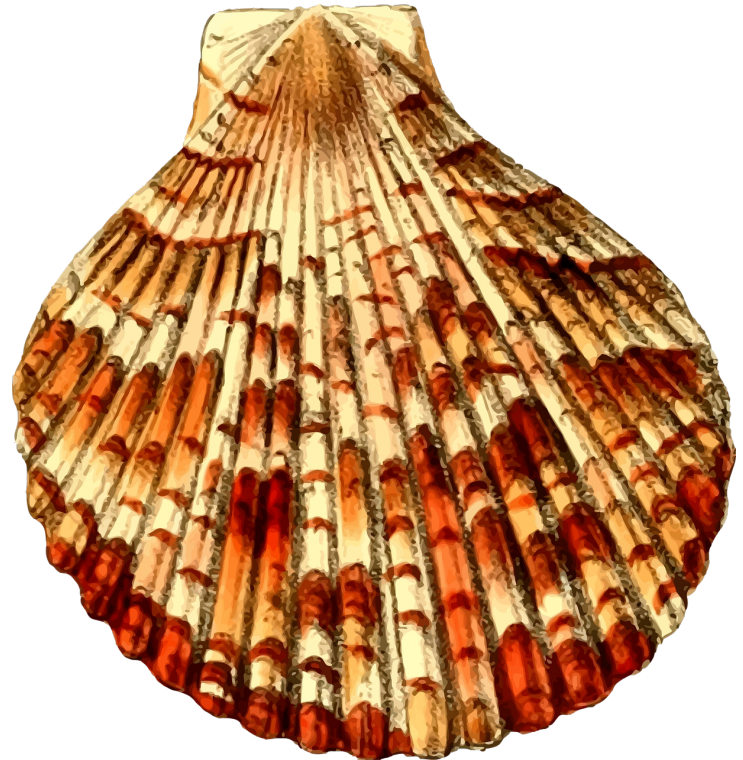
All major operating systems (OS) allow users to interact with the system using a CLI terminal, even if the primary interface the OS uses a graphic user interface (GUI).

A screenshot of a Windows Command Prompt window. The title bar at the top reads "C:\Windows\System32\cmd.exe" and includes standard window controls (minimize, maximize, close). The main area has a black background with white text. It displays "Microsoft Windows [Version 10.0.17763.1935]" and "(c) 2018 Microsoft Corporation. All rights reserved." on the first two lines. The third line shows the command prompt "C:\Windows\system32>" with a white cursor. A vertical scrollbar is visible on the right side of the window.

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.17763.1935]
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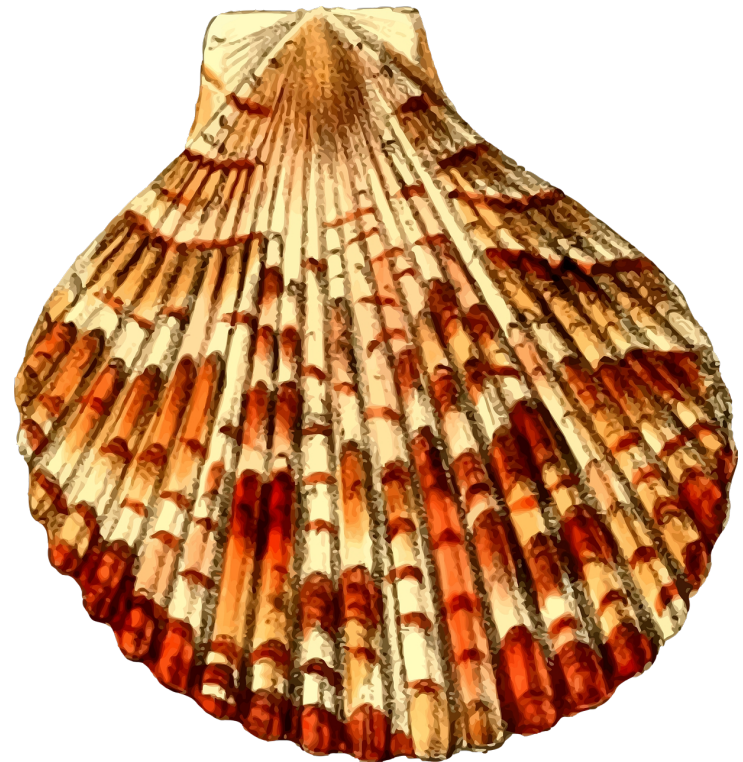
What's the SSH Program?

The SSH (Secure Shell) program is used to login and interact with remote servers (other computers on the network).



What's the SSH Program?

SSH is installed by default on all major OS's (Windows, Linux, MacOS).



What's Next?

In the first HackerFrogs Afterschool Linux OS workshop, we'll start learning Linux commands with the Bandit CTF.



Until Next Time, HackerFrogs!

