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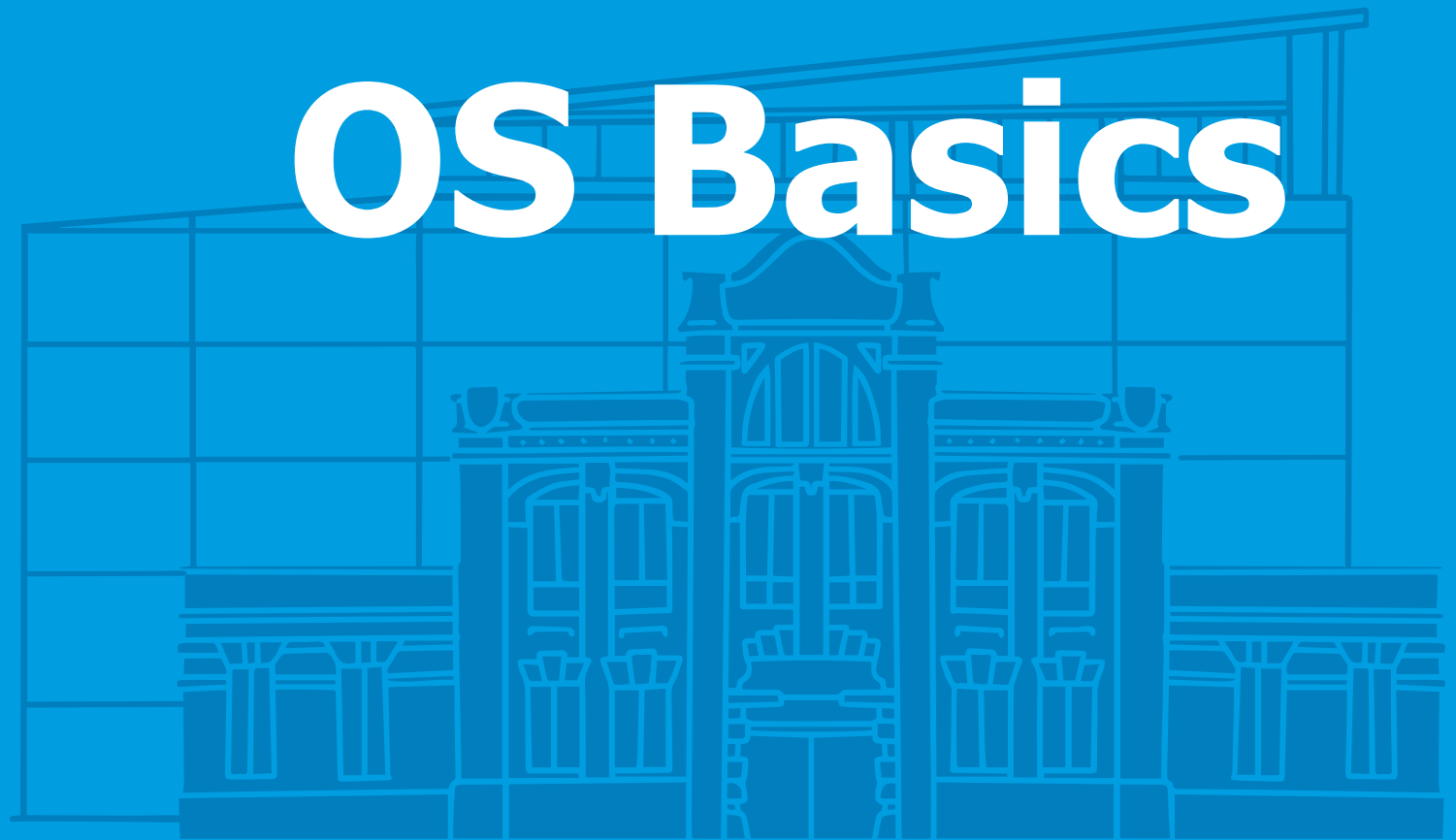
OS Basics



Objectives

In this module you will:

1. Learn system administration basics.
2. Review Linux system administration commands.
3. Use Power Shell for Windows system administration.
4. Learn to use Python for scripting and making API calls.

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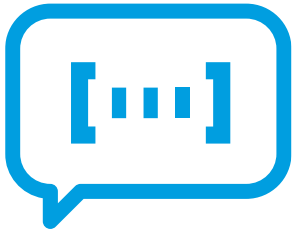
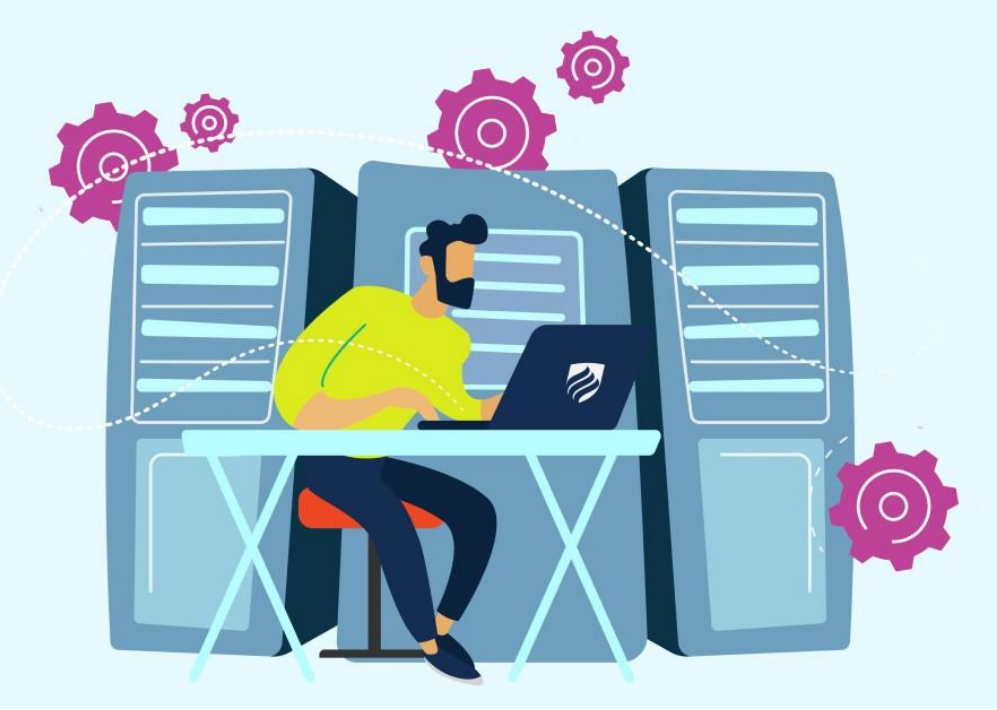


Greetings from the system admin world!

System administration

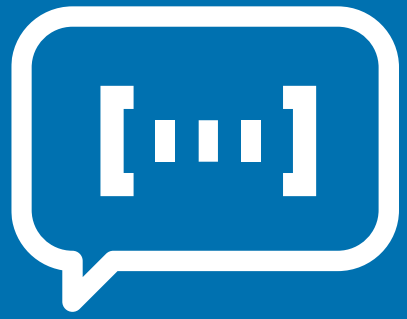


Without administration the systems will fail, one way or another.

Downtimes costs money - and can destroy a business through lawsuits, loss of insurance, and loss of business.

Administration and documentation provides evidence of meeting "**standards compliance**" and "**due diligence**" when things go south.

It also contributes to **fixing the problem** by knowing what could go wrong and being able to **identify it quickly and accurately**.



DISCUSSION

What needs to be administered in a system?

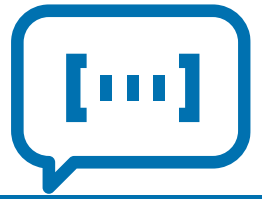
OBJECTIVE

Get insights about server administration

INSTRUCTIONS

1. Think about your laptop or personal computer.
2. **Meet** with your partner and try to answer these **questions**:
   - **What is the computer Operting System?**
   - **What are its components?**
   - **For a computer to perform well, what elements need to be tracked and maintained?**
   - **How can we administer those items?**
3. Use post-its to **gather** the ideas. Synthesize 1 post-it for each question.
4. **Prepare** to share your insights with the rest of the class.

10 min

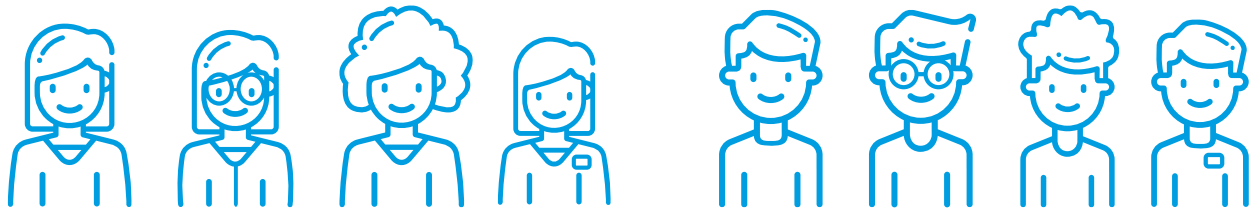


OBJECTIVE

Share your insights!

INSTRUCTIONS

1. **Share** your insights with the rest of the class.
2. Generate **common conclussions**.



5 min

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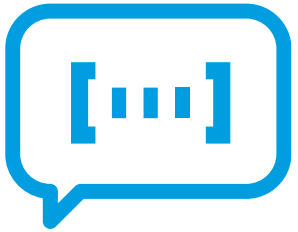


Operating Systems

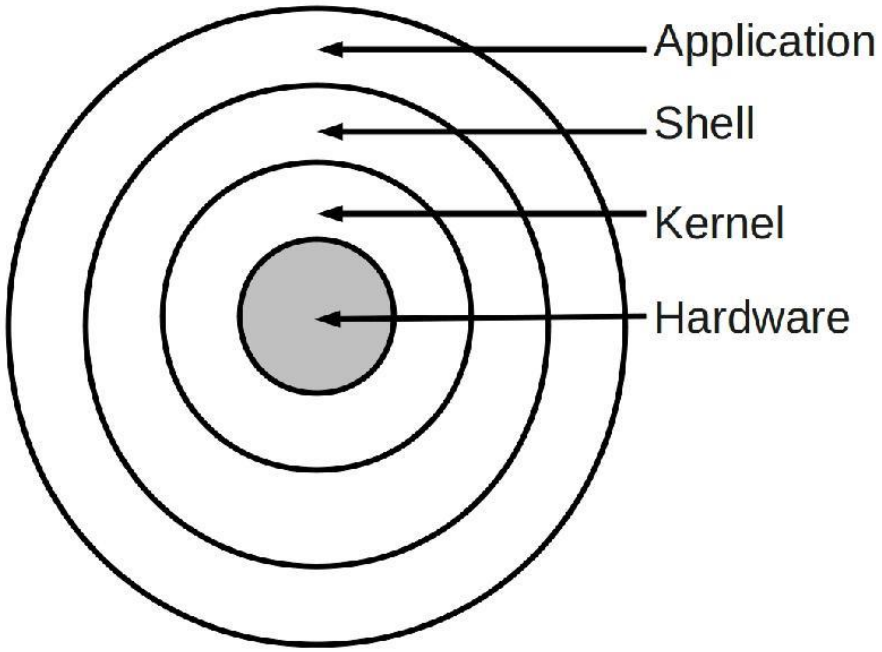
01

Operating Systems

Photo from 2WTech, available on https://2wtech.com/it-101-intro-to-operating-systems/

From the smartwatch on your wrist to the smartphone in your pocket, and even the desktop, laptop or tablet computers you use for work or personal purposes, these gadgets all require an operating system before they can be operated.

Operating Systems Architecture

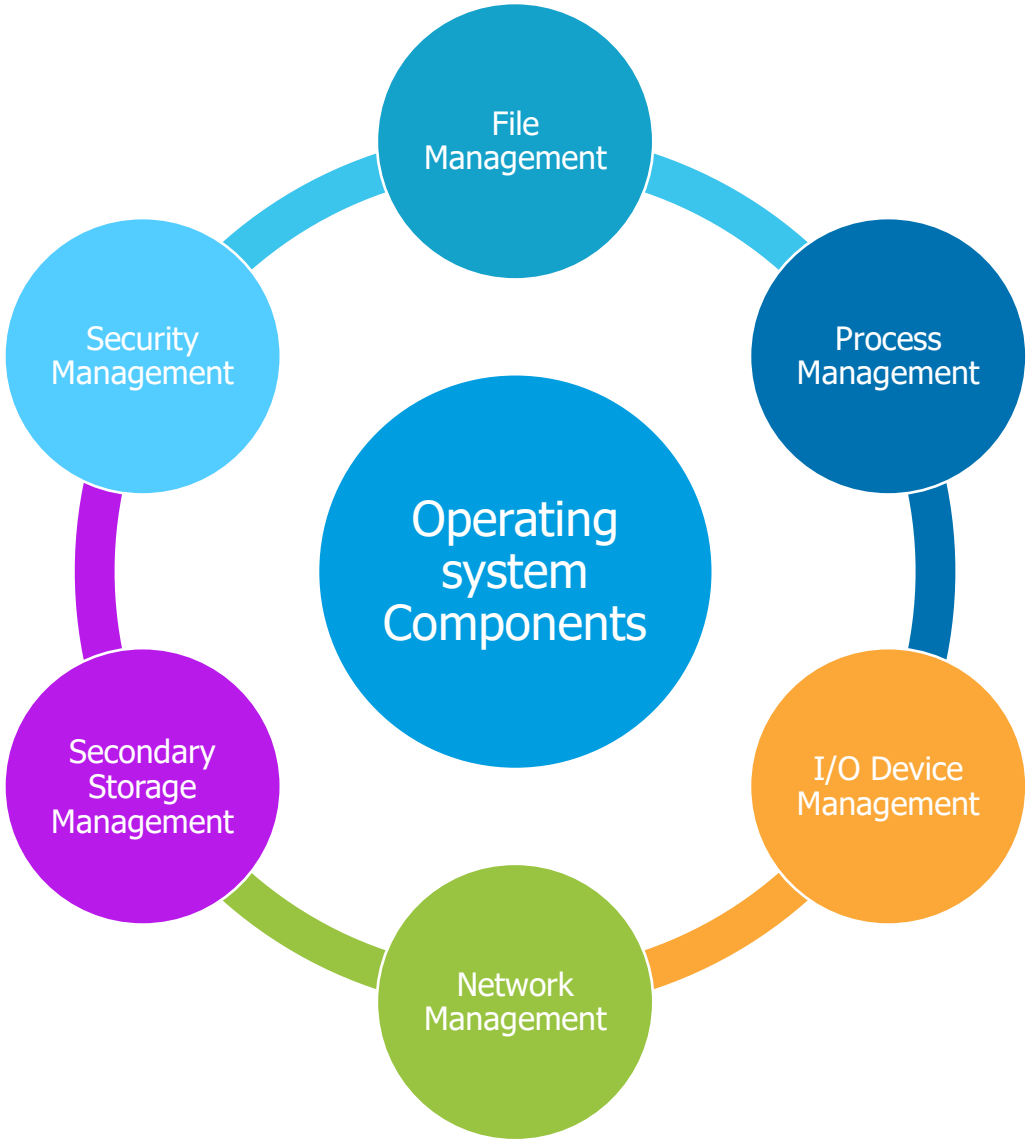


An operating system is a program that acts as an **interface between a user** of a computer **and the computer resources**.

The **purpose** of an operating system is to **provide an environment** in which a user may execute programs.

1. **Hardware:** consists of the memory, CPU, arithmetic-logic unit, various bulk storage devices, I/O, peripheral devices and other physical devices.
2. **Kernel:** is the central component of most computer operating systems; it is a bridge between applications and the actual data processing done at the hardware level.
3. **Shell:** is a piece of software that provides an interface for users to an operating system which provides access to the services of a kernel.

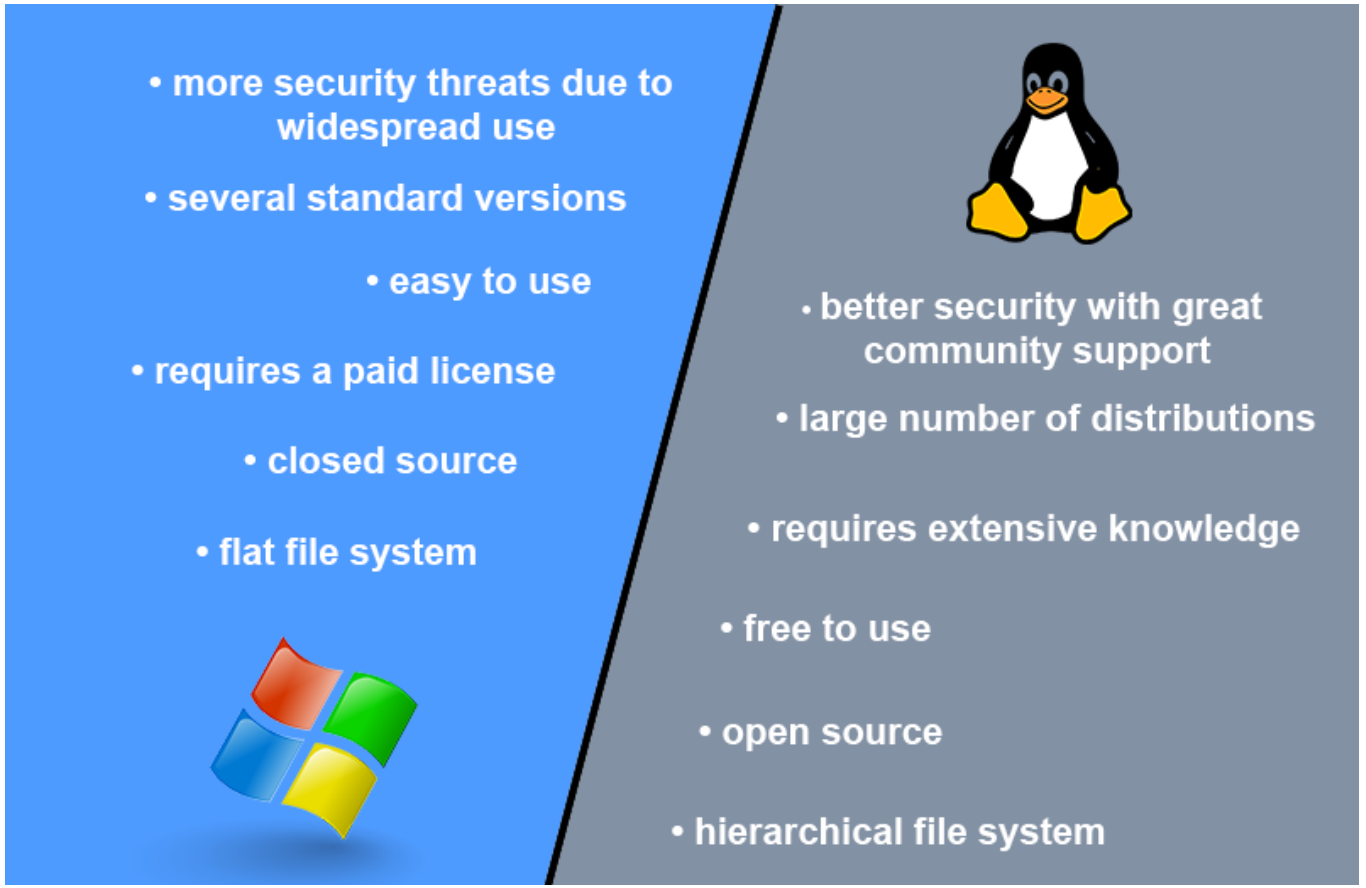
Components of Operating Systems



Although Mac, Unix, Linux, Windows, and other OS do not have the same structure, most of the operating systems share similar OS system components like File, Process, Memory, I/O device management.

Common Server Operating Systems

There is an abundance of operating systems available today. According to some statistics, roughly **80%** of all servers use some variation of **Linux**, while about **20%** of servers use **Windows**.



System administration

System administration is about **setting up disaster recovery, managing new system builds, creating a backup to restore data, hardware management, managing storage, handling file systems, and managing the security of systems**.

A big part of System administration is ensuring that the systems are stable and secure.

Typically Linux system administrators are expected to handle Linux file systems, manage the root user, have a working knowledge of bash commands, and an ability to manage users.

System administration

1. System administration is about **setting up disaster recovery, managing new system builds, creating a backup to restore data, hardware management, managing storage, handling file systems, and managing the security of systems**.
2. A big part of System administration is **ensuring that the systems are stable and secure**.
3. System administrators are expected to **handle file systems, manage the root user, have a working knowledge of bash commands, and an ability to manage users**.

OBJECTIVE

Move between Windows and Linux

INSTRUCTIONS

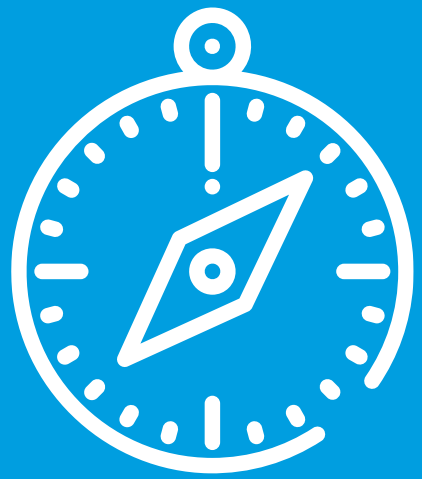
Linux

1. Search for the **Ubutu** app in your server.
2. **Access** the app **and look** at the terminal.
3. **Type** next orders in the terminal:
   - `$ ls -lah`
   - `$ pwd`
4. What these commands do?
5. **Exit** Ubutu

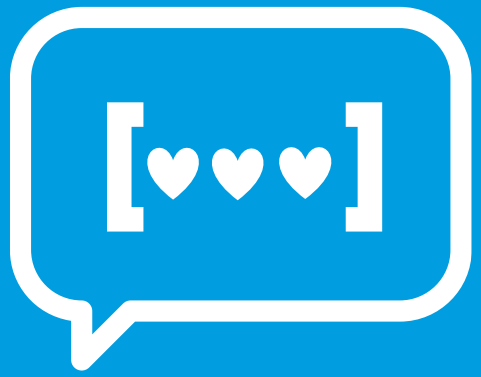
Windows

1. **Open Windows PowerShell**.
2. **Look** at the terminal.
3. **Type** next orders:
   - `> Get-ChildItem`
   - `> $pwd`
4. What these commands do?
5. **Exit** PowerShell

5 min



Next steps



We would like to know your opinion!

Please, let us know what you think about the content.
From Netmind we want to say thank you, we appreciate time and effort you have taking in answering all of that is important in order to improve our training plans so that you will always be satisfied with having chosen us
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Thanks!

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