Hardware – part 3

Dr. Fayzeh Abdulkareem Jaber

The Operating System

An operating system is the most important software that runs on a computer.

It manages the computer's memory and processes, as well as all of its software and hardware.

It also allows you to communicate with the computer.

Without an operating system, a computer is useless.

Types of operating systems

Microsoft Windows.

macOS.

Linux.

Operating systems for mobile devices

APPLE IOS.

GOOGLE ANDROID.

Windows

common operating system platform.

Microsoft has both a server version (Windows Server 2019) and a client version (Windows 10).

The server OS is tuned to provide services outward, while the client OS is designed to consume services.
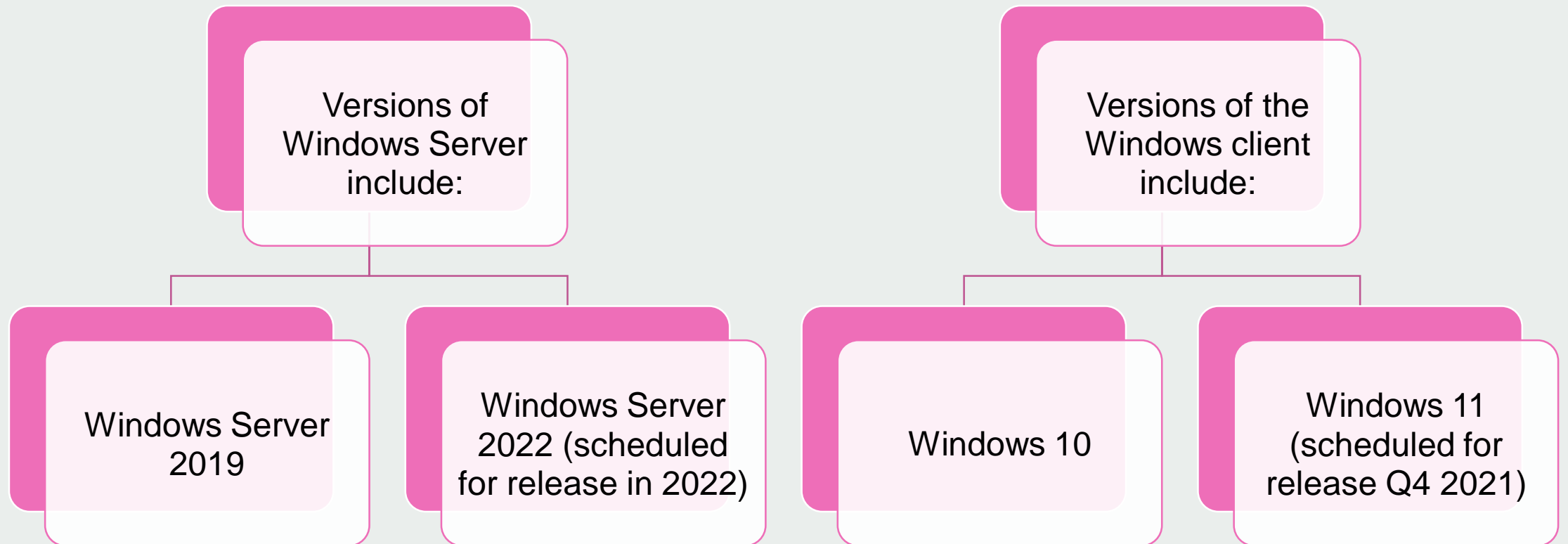
Windows is primarily used via a graphical user interface (GUI).

command prompt (cmd.exe).

Windows

Versions of Windows Server include:

Windows Server 2019

Windows Server 2022 (scheduled for release in 2022)

Versions of the Windows client include:

Windows 10

Windows 11 (scheduled for release Q4 2021)

Linux

The Linux operating system has existed since 1991.

Linux has been a server OS that is often administered entirely from the command line.

Linux family is made up of a great many distributions(collection of software packages).

examples of Linux distributions

Red Hat Enterprise Linux (RHEL): Enterprise-class server OS

Kali Linux: Penetration testing security OS

Ubuntu Studio: Music, visual arts, multimedia OS

macOS

macOS is not open source.

macOS is a client platform, while Linux is often found on the server side.

The macOS is almost always managed from the GUI.

macOS command-line Terminal application.

platform to the M1& M2 processor, which uses the ARM architecture.

Selecting an Operating System

- **Understanding the differences between the operating systems.**

- **considering how you will use the system.**

- **software availability. For many years, Apple was plagued by application availability issues.**

- **With so many applications and services moved to the cloud, the host operating system has become less of a compatibility factor.**

- **When deciding on a standard OS for the workplace, consider applications, but also look to vendor support, device drivers and security concerns.**

Stand-Alone Operating Systems

OS that runs on a device like a notebook, desktop computer, or laptop.

offers a complete functioning framework. Ex Mac OS, DOS, Windows 95, and Windows 2000 Professional.

Network Operating System

The network OS is an OS that operates on the server.

enable the server to handle data, groups, users, and security and offers various features to the connected devices.

enable devices to share data and access resources like printers through a LAN, a private network, and other networks.

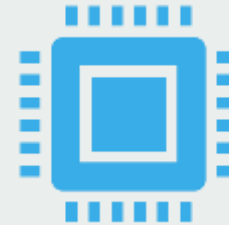It makes the server more safe, secure, and stable.

Advantages
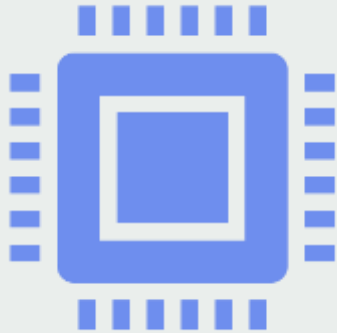
It has highly stable and centralized servers.

Its security concerns are handled by the servers.

It is easily adaptable to new technologies, upgrades, and hardware.

standalone VS network operating system

Features	Standalone operating system	Network operating system
Definition	It is an OS that operates on desktop systems and other portable devices.	It is an OS that runs on connected devices and provides network-based functionality.
Functionality	It enables a single user to control and acquire services from the device at the same time.	It enables users to manage data, users, groups, and other network-related functions.
Examples	Some examples of the standalone OS are DOS, Windows 95, Mac OS, and Windows 2000 professionals.	Some examples of the network OS are Microsoft Windows Server 2003, UNIX, Linux, Novell NetWare, Microsoft Windows Server 2008, Mac OS X, and BSD.

Thank you