

Microsoft Windows 10

Definition:

Windows 10 is a Microsoft operating system released in 2015, succeeding Windows 8.1. It's a widely used platform for personal computers, laptops, tablets, and other devices. Known for its user-friendly interface, it combines elements from previous versions like the Start Menu from Windows 7 and the tile-based design from Windows 8.

It's regularly updated with new features, security patches, and improvements. Windows 10 also introduced the concept of "Windows as a Service," providing continuous updates rather than distinct versions. It supports various applications and software, making it a versatile and commonly adopted OS in the computing world.

Functions:

Windows 10 encompasses a wide array of functions and features that contribute to its usability and popularity. Here are some key functions:

1. Start Menu:

- Central hub for accessing applications, settings, and power options.
- Combines elements from previous versions, offering a mix of familiarity and modern features.

2. Taskbar and Desktop:

- Taskbar provides quick access to frequently used applications.
- Desktop allows users to place shortcuts for easy access to apps and files.

3. Universal Apps:

- Supports universal apps available through the Microsoft Store.
- These apps are designed to work seamlessly across various devices and screen sizes.

4. Cortana:

- Virtual assistant for voice commands, reminders, web searches, and schedule management.
- Enhances user interaction and productivity.

5. Security Features:

- Windows Defender Antivirus for built-in security.
- Regular security updates to protect against malware and other threats.
- Biometric authentication (Windows Hello) and encryption options (BitLocker) for enhanced data security.

6. File Management:

- File Explorer allows users to manage files, folders, and drives.
- Supports tasks like copying, moving, renaming, and organizing files.

7. Multitasking and Virtual Desktops:

- Snap Assist facilitates multitasking by organizing windows on the screen.
- Multiple virtual desktops allow users to create distinct workspaces for better organization.

8. Gaming Features:

- DirectX 12 improves gaming performance.
- Xbox integration for game streaming and connectivity with the Xbox Live community.

9. Updates and Support:

- Follows a model of continuous updates, providing new features, security patches, and performance improvements regularly.
- Ongoing support from Microsoft for bug fixes and technical issues.

These functions collectively make Windows 10 a versatile and widely adopted operating system, catering to various user needs, from everyday computing tasks to gaming and professional applications.

Components of Windows 10

Windows, as an operating system, consists of several core components that work together to manage hardware, provide a user interface, and run applications. Here are some fundamental components:

1. Kernel: The heart of the operating system. It manages system resources, memory, and peripheral devices. The kernel ensures that software applications can communicate effectively with hardware components.

2. User Interface (UI):

- Desktop: The graphical interface where users interact with icons, folders, files, and shortcuts.
- Start Menu or Start Screen: Provides access to applications, settings, and search functions.
- File System: Manages how data is stored and organized on disk drives. Windows commonly uses the NTFS (New Technology File System) for data management.

3. Device Drivers: Software that allows the operating system to communicate with and control hardware devices like printers, graphics cards, and input devices.

4. Windows Services: Background processes that perform specific functions such as managing network connections, handling system events, or providing security features.

5. Windows Registry: A database storing system configuration settings and options for applications and hardware. It plays a vital role in the system's operations.

6. System Libraries: Collections of pre-written code that applications can use to perform common tasks, such as displaying graphics, handling input/output operations, and more.

7. Networking Components: Protocols, services, and configurations responsible for enabling network connectivity, managing network resources, and communication between devices.

8. Security Components: Include components like Windows Defender (antivirus and antimalware), Windows Firewall (network security), and encryption tools for protecting data.

9. Task Scheduler: Manages automated tasks and processes scheduled to run at specific times or in response to certain events.

10. System Utilities: Various tools and utilities that help manage and troubleshoot the system, such as Disk Cleanup, Task Manager, and System Restore.

These components collectively form the foundation of the Windows operating system, allowing it to manage hardware resources, provide a user-friendly interface, and support various software applications and functionalities.

The Windows 10 Interface

After logging the computer, Windows 10 desktop will be appeared. The Desktop layout is as follows:

1. Desktop Icons – This PC, Shortcuts to files, folders, and the Recycle Bin (See Figure).

2. The Taskbar – Like in previous versions of Windows, the taskbar provides access to the Start Menu, shortcuts to programs, as well as volume and date/time control (See Figure).
3. The Start Button – Found on the bottom left of your screen, the Start button allows you to access computer programs and configuration options such as Windows Settings (See Figure).
4. Windows Search – Allows you to search for programs, folders, and files (See Figure).
5. Task View – A new feature in Windows 10 that gives you access to a task switcher tool as well as a Virtual Desktop (See Figure).
6. File Explorer – Formerly known as Windows Explorer, File Explorer is a file manager application that allows you to access files and folders on the computer (See Figure).
7. Taskbar Programs – Provides quick access to open or pinned programs (See Figure).
8. Volume Adjustment – Allows you to adjust the computers volume (See Figure).
9. Date/Time – Access the Date/Time options (See Figure).



Types of Icons

1. System Icons:

System Icons are displayed along left edge of screen. These icons are created automatically by windows during its installation. Example of some system icons are This PC, Recycle Bin, My Documents, Internet Explorer etc.

2. Shortcut Icons:


These are the icons with small arrows in the lower left corner. A shortcut icons provides easy access to some objects on our systems, such as a program, a document or a printer. The shortcut icons only contain information about the location of the object but not the object itself.

3. Program folder and Document Icons:

These are non-system icons without arrows and they represent the actual objects they describe. So if we delete such an icon we are deleting the object itself, from the hard disk.

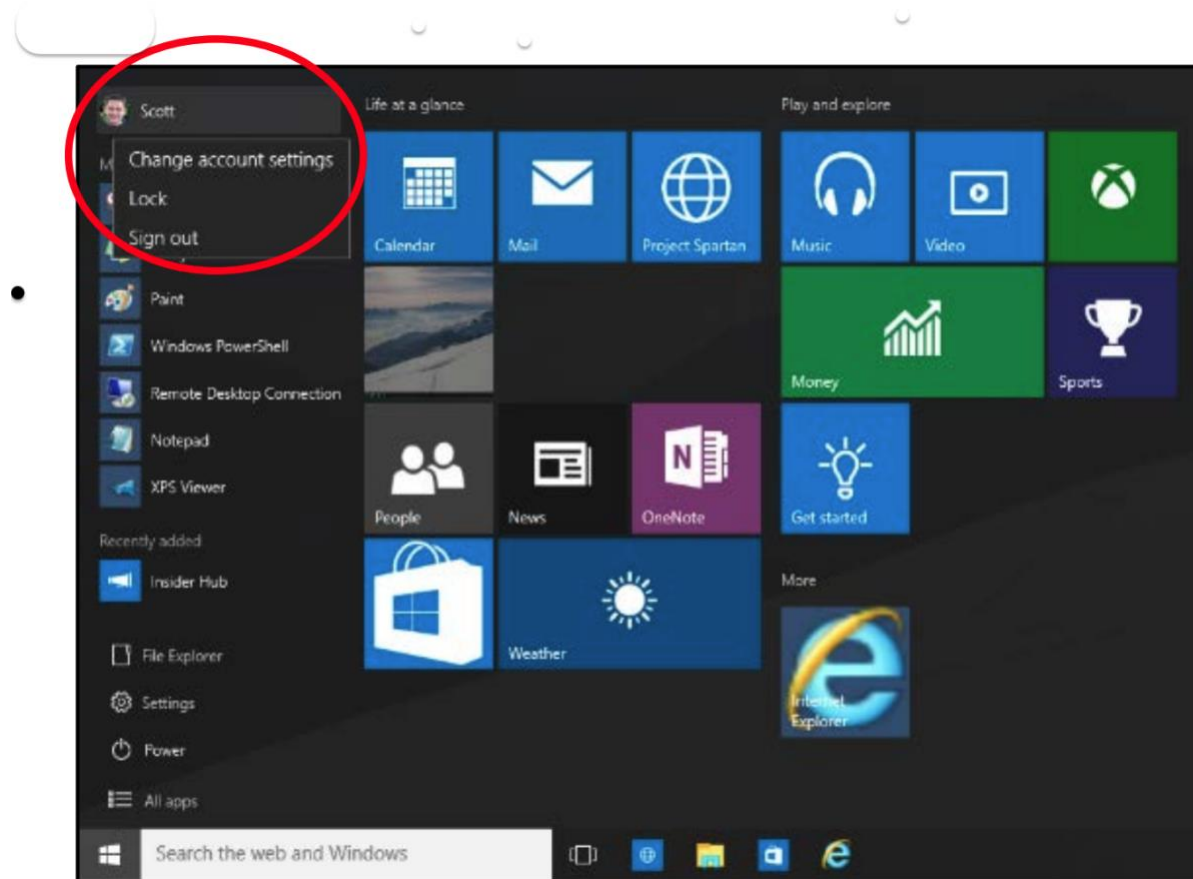
Start menu:

To display the Start menu:

- Select the Start  button on the far left of the Windows Taskbar.
- OR –
- Press Windows logo key on the keyboard.

1. Lock your computer, change your account picture, or sign out

- On the Start menu, select your user name.
- Choose the option you want: **Change account settings**, **Lock**, or **Sign out**.



2. Quickly access your apps, files, and settings

In the left pane of the Start menu, immediately below your user name, you'll find the following:

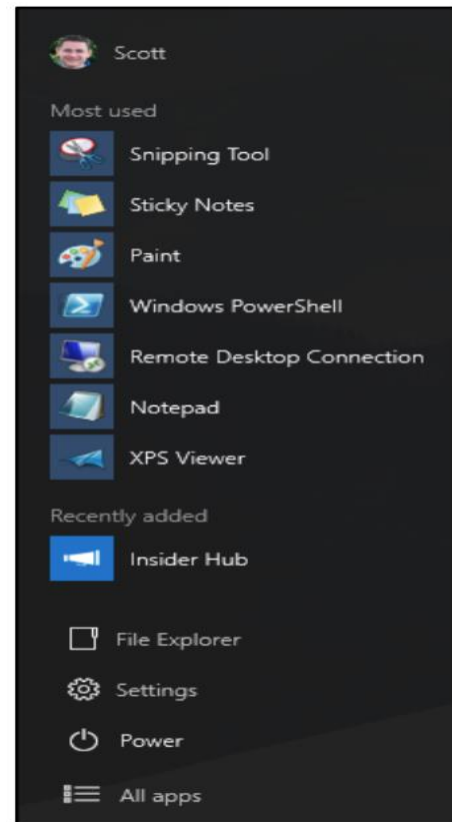
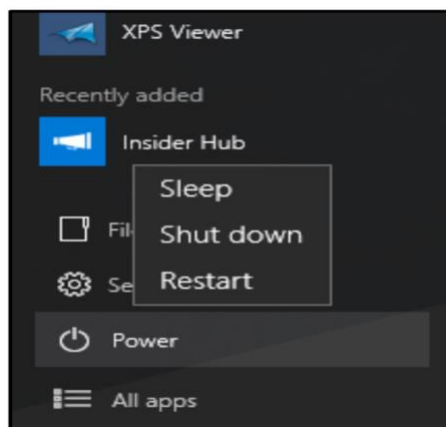
- Links to your most-used and recently added apps
- Links to **File Explorer** and **Settings**
- A **Power** button
- An **All apps** button—select it to display a list of all your apps.

Select an app to launch it. Press and hold (or right-click) the app to choose from a broader range of options, which, depending on the app, may include the following:

- Open
- Run as administrator
- Uninstall
- Pin to Start
- Pin to taskbar
- Remove from this list

3. Shut down your computer, restart it, or put it to

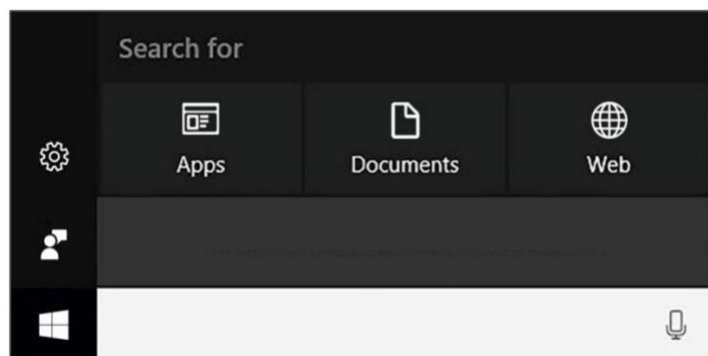
1. On the **Start** menu, select **Power**.
2. Select the option you want: **Sleep**, **Shut down**, or **Restart**



4. Search for apps, settings, and files, and search across the web

Start typing in the search box to the right of the Start button to search across the following locations:

- Apps on your PC
- Settings
- Files—including your documents, pictures, music, and videos
- Results on the Web



5. Tiles

In the right pane of the Start menu, you'll find tiles for some common apps.

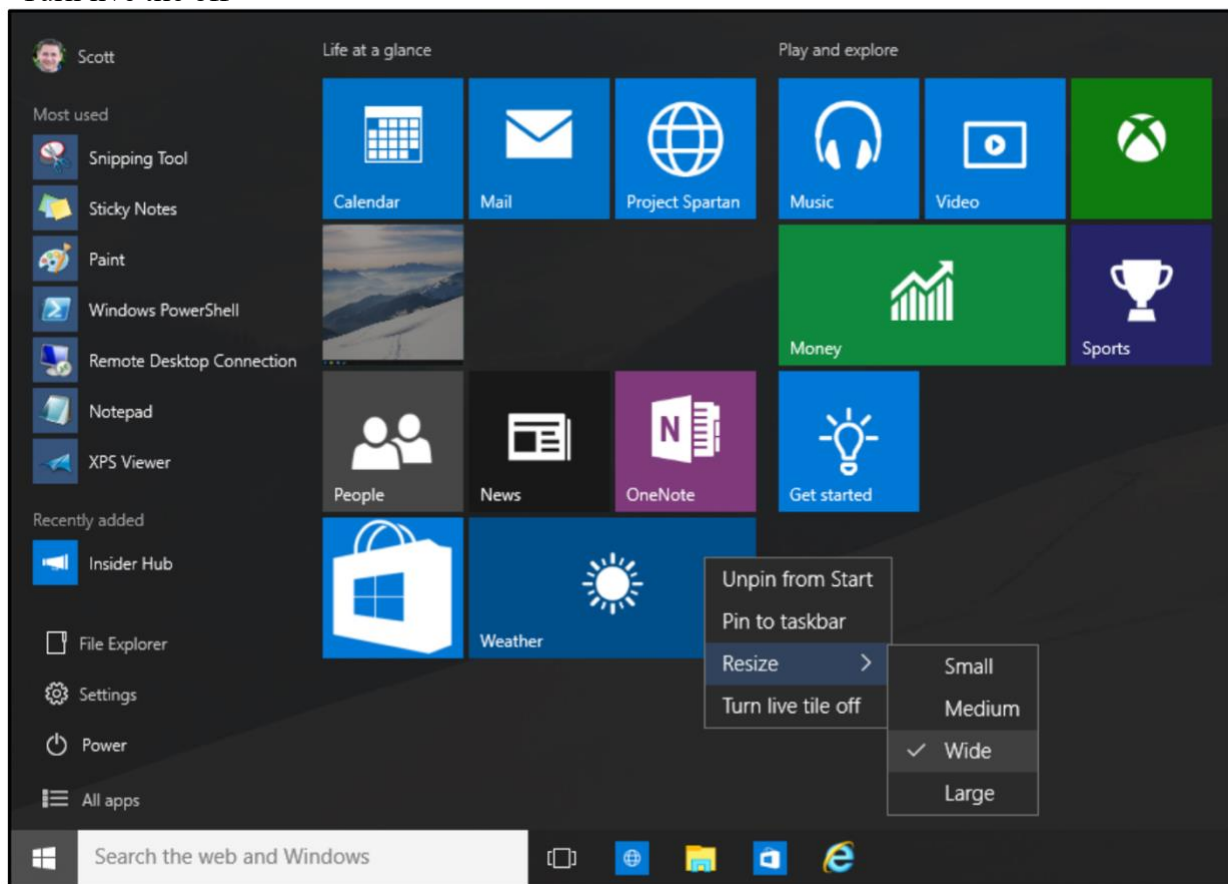
To move a tile, just drag it to another position.

- You can drag tiles to rearrange them within the right pane of the Start menu.
- You can also drag apps between the tile view and the app list view.

Right-click a tile to display a menu for performing other actions with that tile.

Depending on the app, these actions may include:

- Unpin from Start
- Pin to taskbar
- Uninstall
- Run as administrator
- Open file location
- Resize a tile
- Turn live tile off



Tiles in the Start menu are divided by category. To rename a category divider, select it and enter the new name for that category.