**Installers**

When we install software, it is usually packaged using different types of **installers**. These installers are used based on the operating system (Windows, Linux, macOS) and the deployment method. Below are the common types:

**1. MSI (Microsoft Installer) – Windows**

* Format: .msi
* Used for: Windows OS

**Advantages**:.

1.Supports EASY installation.

2.Good for enterprise environments.

3.Supports automated installation, repair, and uninstallation.

#### ****For Windows (MSI Installer)****

* **Tool**: Visual Studio

**2. EXE (Executable File) – Windows**

* Format: .exe
* Used for: Windows OS

**Advantages**:

* + Common for simple software installations.
  + Can include custom or own installation logic.
  + ADVANCED UI AND LOGIC

**3. MSIX – Windows 10+**

* Format: .appx, .msix
* Used for: Modern Windows applications

**Advantages**:

* + Easy to manage updates from Microsoft Store.
  + It is a modern packaging
  + Modern and lightweight.
  + Becoming popular in enterprise environments.

**4. DMG (Disk Image) – macOS**

* Format: .dmg
* Used for: macOS systems

**Advantages**:

* + Clean, user-friendly installations for Mac users.
  + Usually contains drag-and-drop installation method

#### ****MacOS (DMG/PKG Installers)****

* **Tool**: pkgbuild, productbuild, or third-party tools like Packages.

**5. RPM (Red Hat Package Manager) – Linux**

* Format: .rpm
* Used for: Red Hat-based Linux systems (RHEL, Fedora, CentOS)

**Advantages**:

* + Suitable for CLI-based installations.

**6. DEB (Debian Package) – Linux**

* Format: .deb
* Used for: Debian-based Linux systems (Ubuntu)

**Advantages**:

* + Easily installed using APT.
  + Commonly used in servers and developer environments.

**7. JAR (Java Archive) – Cross-platform**

* Format: .jar
* Used for: Java applications on any OS

**Advantages**:

* + Platform-independent.
  + Can be run anywhere Java is installed.

### COMMANDS IN WINDOWS

1. **appwiz.cpl**

This is used to view, uninstall, or change installed applications.

1. **services.msc**

It shows all the background services running in the system.

We can start, stop, or disable services.

1. **Environment Variables**

These are system values like PATH or TEMP that help applications run properly.

We set these during installation if the app needs to access specific folders or commands.

1. **Task Manager (Ctrl+Shift+Esc)**

Used to monitor applications, background processes, and performance.

Helpful to check if an app is running in the background after install.

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