

What is Package Management?

In Linux (including WSL), **Package Managers** are tools that allow you to:

Task	Command
Install Software	<input checked="" type="checkbox"/> <code>sudo apt install</code>
Remove Software	<input checked="" type="checkbox"/> <code>sudo apt remove</code>
Update Packages	<input checked="" type="checkbox"/> <code>sudo apt update</code>
Upgrade System	<input checked="" type="checkbox"/> <code>sudo apt upgrade</code>
Search for Packages	<input checked="" type="checkbox"/> <code>apt search</code>
View Installed Packages	<input checked="" type="checkbox"/> <code>dpkg -l</code>
Install from .deb file	<input checked="" type="checkbox"/> <code>sudo dpkg -i <file>.deb</code>

How Package Managers Work:

- WSL (Ubuntu) uses **APT (Advanced Package Tool)**.
- It connects to **Linux Repositories (Kali, Ubuntu, Debian, Arch)**.
- Downloads the software (like hacking tools, networking tools, Linux utilities).
- Installs dependencies (like Python, Node.js, or libraries).

Package Managers Based on Linux Distributions:

Linux Distro	Package Manager
Ubuntu/Debian (WSL)	<input checked="" type="checkbox"/> <code>apt</code>
Kali Linux (WSL)	<input checked="" type="checkbox"/> <code>apt</code>
Arch Linux	<input checked="" type="checkbox"/> <code>pacman</code>
Fedora/Red Hat	<input checked="" type="checkbox"/> <code>dnf</code>
Parrot OS (Ethical Hacking OS)	<input checked="" type="checkbox"/> <code>apt</code>
BlackArch (Extreme Hacking Distro)	<input checked="" type="checkbox"/> <code>pacman</code>

APT Commands (for Ubuntu & Kali WSL)

Command	Purpose
<code>sudo apt update</code>	Updates package list
<code>sudo apt upgrade</code>	Upgrades all installed packages
<code>sudo apt install <package></code>	Installs a new package
<code>sudo apt remove <package></code>	Removes a package
<code>sudo apt search <tool></code>	Search for hacking tools
<code>sudo apt autoremove</code>	Removes unnecessary packages

Basic Concept of Package Managers in Linux (In Simple Terms):

Task	Windows Equivalent
<code>sudo apt install</code>	Install from .exe
<code>sudo apt remove</code>	Uninstall from Control Panel
<code>sudo apt update</code>	Check for Updates
<code>sudo apt upgrade</code>	Upgrade All Packages
<code>pip install</code>	Install Python Packages