Here are all the commands you can use in the custom cross-platform shell, organized by category and platform compatibility:

**Basic File Operations (All Platforms)**

| **Command** | **Windows** | **Linux/macOS** | **Description** |
| --- | --- | --- | --- |
| ls/dir | ✅ | ✅ | List directory contents |
| cd <dir> | ✅ | ✅ | Change directory |
| pwd | ✅ | ✅ | Show current directory |
| mkdir <dir> | ✅ | ✅ | Create directory |
| rm <file>/del <file> | ✅ | ✅ | Delete file |
| cp <src> <dest>/copy <src> <dest> | ✅ | ✅ | Copy file |
| mv <src> <dest>/move <src> <dest> | ✅ | ✅ | Move/rename file |
| cat <file>/type <file> | ✅ | ✅ | View file contents |
| touch <file> | ✅ (via alias) | ✅ | Create empty file |

**System Information**

| **Command** | **Windows** | **Linux/macOS** | **Description** |
| --- | --- | --- | --- |
| hostname | ✅ | ✅ | Show system hostname |
| whoami | ✅ | ✅ | Show current user |
| systeminfo | ✅ | ❌ | Show Windows system info |
| top/tasklist | ❌ (use tasklist) | ✅ | Show running processes |
| df/diskusage | ✅ (via wmic) | ✅ | Show disk space |
| free/memory | ❌ | ✅ | Show memory usage |

**Networking**

| **Command** | **Windows** | **Linux/macOS** | **Description** |
| --- | --- | --- | --- |
| ping <host> | ✅ | ✅ | Ping a host |
| ifconfig/ipconfig | ✅ (ipconfig) | ✅ (ifconfig) | Show network info |
| netstat | ✅ | ✅ | Show network connections |
| traceroute <host> | ✅ (tracert) | ✅ | Trace network route |

**Process Management**

| **Command** | **Windows** | **Linux/macOS** | **Description** |
| --- | --- | --- | --- |
| ps | ❌ (use tasklist) | ✅ | List processes |
| kill <pid> | ✅ (taskkill) | ✅ | Kill process by ID |
| start <app> | ✅ | ❌ (use open on macOS) | Launch application |

**Package Management**

| **Command** | **Windows** | **Linux/macOS** | **Description** |
| --- | --- | --- | --- |
| install <pkg> | ❌ (manual) | ✅ (apt/brew) | Install software |
| update | ❌ | ✅ (apt update/brew update) | Update packages |

**User Management**

| **Command** | **Windows** | **Linux/macOS** | **Description** |
| --- | --- | --- | --- |
| adduser <name> | ✅ (net user) | ✅ (useradd) | Add user |
| passwd <user> | ✅ (net user) | ✅ | Change password |

**Utilities**

| **Command** | **Windows** | **Linux/macOS** | **Description** |
| --- | --- | --- | --- |
| clear/cls | ✅ (cls) | ✅ (clear) | Clear screen |
| history | ❌ | ✅ | Show command history |
| exit | ✅ | ✅ | Exit shell |
| help | ✅ | ✅ | Show available commands |

**Platform-Specific Commands**

**Windows Only**

* sfc /scannow (System File Checker)
* chkdsk (Check Disk)
* wmic (Windows Management Instrumentation)

**Linux/macOS Only**

* grep (Search text)
* chmod (Change permissions)
* ssh (Secure Shell)
* sudo (Run as admin)

**How to Use in the Shell**

1. **Select your OS** when starting the shell.
2. **Type any command** (it will auto-translate aliases across platforms).
3. **Example usage**:
   * ls → Works on all platforms (converts to dir on Windows)
   * ping google.com → Works everywhere
   * ifconfig → Auto-runs ipconfig on Windows

**Notes**

* Some commands may require **admin privileges** (use sudo on Linux/macOS, run as Admin on Windows).
* The shell **automatically maps aliases** (e.g., ls → dir on Windows).
* For a full list, type help after selecting your OS.