Network Tools & Commands

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| **Command** | **Description** |
| ping <host> | Checks if a host is reachable and measures round-trip time. |
| ifconfig / ip a | Displays network interfaces and IP configurations (Linux). |
| ipconfig | Displays network configuration (Windows). |
| netstat -tuln | Lists active TCP/UDP ports and listening services. |
| netstat -anp | Shows active connections with process ID. |
| traceroute <host> | Shows path packets take to reach a destination (Linux/macOS). |
| tracert <host> | Windows version of traceroute. |
| nslookup <domain> | Queries DNS to find IP addresses for domain names. |
| dig <domain> | Performs detailed DNS lookups (Linux/macOS, if installed). |
| curl <url> | Transfers data from or to a server using HTTP(S). |
| wget <url> | Downloads files from the web (simpler than curl for some tasks). |

| wget <url> | Downloads files from web (simpler than curl for some tasks). |

**🔹 Session 5: Git & Version Control Basics**

**Git Basics**

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| **Command** | **Description** |
| git --version | Check installed Git version. |
| git config --global user.name "Your Name" | Set Git username. |
| git config --global user.email "you@example.com" | Set Git email. |
| git init | Initialize a new Git repository. |
| git status | Show current status of files in the working directory. |
| git add <file> | Stage a specific file for commit. |
| git add . | Stage all modified/added files. |
| git commit -m "message" | Commit staged changes with a message. |
| git log | View commit history. |

**GitHub & Remote Commands**

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| **Command** | **Description** |
| git remote add origin <repo\_url> | Add remote GitHub repository. |
| git push -u origin main | Push commits to the main branch of remote repo. |
| git pull | Fetch and merge changes from the remote repository. |
| git clone <repo\_url> | Clone a remote repository locally. |

**Branching & Merging**

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| **Comand** | **Description** |
| git branch | List all branches. |
| git branch <name> | Create a new branch. |
| git checkout <name> | Switch to a specific branch. |
| git checkout -b <name> | Create and switch to a new branch. |
| git merge <branch> | Merge another branch into the current one. |
| git branch -d <name> | Delete a branch. |

**.gitignore, README, and Markdown**

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| **Item** | **Description** |
| .gitignore | Specifies files/folders Git should ignore. |
| README.md | Markdown file to describe the project. |
| **Markdown Tips** |  |
| #–###### | Headings (H1–H6) |
| \*\*bold\*\* | Bold text |
| \*italic\* | Italic text |
| -, \* | Bullet lists |
| `code` | Inline code |
| ```bash | Code block for shell commands |
| ... | End with another ``` |