GoPiGo Terminal Guide

Contents:

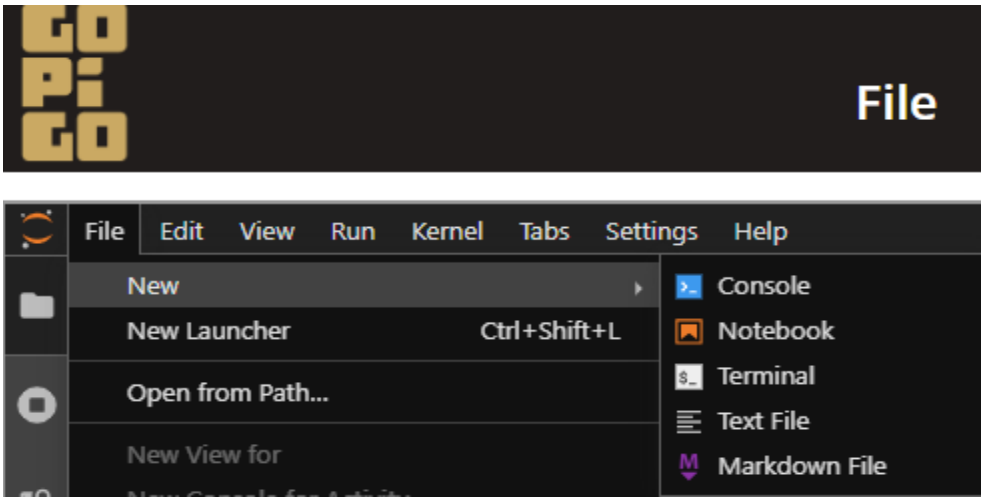
1. Accessing the GoPiGo Terminal via Browser
2. Basic File & Directory Terminal Commands
3. Searching
4. File Editing
5. Permissions
6. Nano Text Editor Shortcuts
7. Terminal Key Shortcuts
8. Installing Software and Reboot
9. Curl
10. Python & pip
11. Python Virtual Environment
12. Disk Info
13. Raspberry Pi Camera Setup
14. GoPiGo3

1.Accessing the GoPiGo Terminal via Browser:

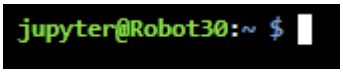
1. **Power on your GoPiGo3 robot.**
    - Make sure it's either:
        - Connected to the same Wi-Fi network as your computer, **or**
        - Acting as a Wi-Fi access point (default behavior).
2. **Open Google Chrome** (recommended for best compatibility).
3. **Enter the following in the address bar**:
   http://10.10.10.10

   Note: This is the default IP when GoPiGo is in access point mode.

4. **Navigate to the terminal:**
    - Click on **File** in the top menu.
    - Select **Terminal** from the dropdown.



- A terminal window will open inside your browser like this.



2. Basic File & Directory Terminal Commands:

- **ls -** List files and folders in current directory
- **cd -** Change Directory
- **cd myfolder/** - Move into "myfolder"
- **cd ..** - Go back one directory
- **mkdir** projects - Create a folder called "projects"
- **rm** myfile.txt - Delete a file
- **rm -r myfolder/** - Delete a folder and all its contents
- **cp source.txt destination.txt** – Copy a file
- **cp -r dir1 dir2** - Copy an entire directory
- **mv oldname.txt newname.txt** - Rename or move a file
- **mv file.txt /path/to/dir/** - Move file to another directory
- **pwd** - Show the current directory (Print Working Directory)
- **tree** - Display directories and files in a tree-like format
- **du -sh *** - Show disk usage for files and folders in human-readable form
- **file filename** - Show the file type (e.g., text, binary)
- **touch notes.txt**- Create an empty file called notes.txt
- **clear** - Clear the terminal screen
- **history** - Show command history

3. Searching:

- **grep 'text' file.txt -** Search for "text" inside a file
- **grep -r 'text' ./folder -** Recursively search for "text" in all files inside a folder
- **find . -name "*.py" -** Find all .py Python files in current directory
- **locate filename -** Find the location of a file (requires mlocate package)

4. File Editing:

- nano script.py - Open script.py in nano editor

5. Permissions:

- **chmod** +x script.sh - Make the script executable

6. Nano Text Editor Shortcuts (used to edit files in terminal):

- Ctrl + O - Write Out (save) the file
- Ctrl + X - Exit nano
- Ctrl + K - Cut current line
- Ctrl + U - Paste (after cut)
- Ctrl + W - Search inside the file
- Ctrl + G - Help menu
- Ctrl + C - Show current line, column position
- Ctrl + _ - Go to line number

7. Terminal Key Shortcuts:

- Ctrl + C - Stop running command or script
- Ctrl + Z - Suspend (pause) a process
- Ctrl + D - Logout or end input (EOF)
- Ctrl + L - Clear the terminal screen
- Ctrl + A - Move to start of the line
- Ctrl + E - Move to end of the line
- Ctrl + U - Delete from cursor to beginning
- Ctrl + K - Delete from cursor to end
- Ctrl + R - Search command history
- Tab - Auto-complete command or filename
- Arrow ↑ ↓ - Scroll through command history
- If you're editing Python scripts for GoPiGo3, you'll mostly use:
  nano filename.py → to open the script
  Ctrl + O, then Enter → to save
  Ctrl + X → to exit

8. Installing Software and Reboot:

- **sudo apt update**- Update package lists
- **sudo apt upgrade**- Upgrade installed packages
- **Eg:** sudo apt install git - Install a package (example: git)
- **sudo reboot -** Reboot to apply hardware configs

9. curl:

- **curl** https://example.com **-** Fetch content from a website

10. Python & pip:

- **sudo apt install python3-pip** - Install pip for Python 3
- **Eg:** pip3 install numpy - Install a Python package (example: numpy)

11. Python Virtual Environment:

- **python3 -m venv myenv** - Create virtual environment in "myenv"
- **source myenv/bin/activate** - Activate the virtual environment
- **deactivate** - Exit the virtual environment

12. Disk Info:

- **lsblk -** Show connected storage devices (SD card, USB, etc.)

13. Raspberry Pi Camera Setup:

- **Enable the Camera**
  sudo raspi-config - Interface Options -> Camera -> Enable -> Reboot

14. GoPiGo3:

- **jupyter@Robot30: ~ $ python3 ~/Dexter/GoPiGo3/Software/Python/Examples/Read_Info.py** - Check GoPiGo3 device info
- **jupyter@Robot30:~ $ cd ~/Dexter/GoPiGo3/Software/Python/Examples/** - Go to example scripts
- **jupyter@Robot30:~ $ sudo python3 basic_robot.py -** Run a basic GoPiGo3 robot script