

```

import tkinter as tk
from tkinter import messagebox, scrolledtext
import subprocess
import os

class TruffleManager:
    def __init__(self, root):
        self.root = root
        self.root.title("Portfolio Smart Contract Manager")
        self.root.geometry("800x600")
        self.root.configure(bg="#1e1e1e")

        # Title
        tk.Label(root, text="Truffle Smart Contract Dashboard", fg="#ecf0f1",
            bg="#1e1e1e", font=("Arial", 18, "bold")).pack(pady=15)

        # Control Buttons
        btn_frame = tk.Frame(root, bg="#1e1e1e")
        btn_frame.pack(pady=10)

        self.btn_compile = tk.Button(btn_frame, text="1. Compile", width=15, height=2,
            bg="#3498db", fg="white", font=("Arial", 10, "bold"),
            command=lambda: self.execute(["truffle", "compile", "--all"]))
        self.btn_compile.grid(row=0, column=0, padx=10)

        self.btn_test = tk.Button(btn_frame, text="2. Run Tests", width=15, height=2,
            bg="#2ecc71", fg="white", font=("Arial", 10, "bold"),
            command=lambda: self.execute(["truffle", "test", "--compile-all"]))
        self.btn_test.grid(row=0, column=1, padx=10)

        # Terminal Output
        tk.Label(root, text="Process Output:", fg="#bdc3c7", bg="#1e1e1e").pack(padx=25, anchor="w")
        self.terminal = scrolledtext.ScrolledText(root, width=90, height=20, bg="black", fg="#00ff00", font=("Courier New", 10))
        self.terminal.pack(pady=10, padx=20)

    def execute(self, command):
        self.terminal.insert(tk.END, f"\n> Starting: {' '.join(command)}\n")
        self.root.update_idletasks()

        try:
            # shell=True is vital for Windows to find truffle.cmd
            proc = subprocess.run(command, capture_output=True, text=True, shell=True)

            if proc.stdout:
                self.terminal.insert(tk.END, proc.stdout)
            if proc.stderr:
                # We show warnings (like uWS) but don't treat them as fatal
                self.terminal.insert(tk.END, f"\nSystem Warnings:\n{proc.stderr}")

            if "1 passing" in proc.stdout:
                messagebox.showinfo("Success", "Unit Test Passed Successfully!")

        except Exception as e:
            self.terminal.insert(tk.END, f"ERROR: {str(e)}")
            messagebox.showerror("Error", "Command failed to execute.")

            if "1 passing" in proc.stdout:
                messagebox.showinfo("Success", "Unit Test Passed Successfully!")

        except Exception as e:
            self.terminal.insert(tk.END, f"ERROR: {str(e)}")
            messagebox.showerror("Error", "Command failed to execute.")

        self.terminal.see(tk.END)

if __name__ == "__main__":
    root = tk.Tk()
    app = TruffleManager(root)
    root.mainloop()

```

# Output:

**Truffle Smart Contract Dashboard**

1. Compile 2. Run Tests

Process Output:

```
> Starting: truffle compile --all
Compiling your contracts...
> Compiling .\contracts\Portfolio.sol
> Artifacts written to C:\Users\shish\Downloads\BCE\build\contracts
> Compiled successfully using:
  - solc: 0.8.21+commit.d9974bed.Emscripten.clang

> Starting: truffle test --compile-all
Using network 'test'.

Compiling your contracts...
> Compiling .\contracts\Portfolio.sol
> Artifacts written to C:\Users\shish\AppData\Local\Temp\test--10168-JWp2ahO4SV5t
> Compiled successfully using:
  - solc: 0.8.21+commit.d9974bed.Emscripten.clang
```

Success

Unit Test Passed Successfully!

OK

ADDRESS	BALANCE	TX COUNT	INDEX
533BCd85179f76	100.00 ETH	0	0
7DB25947CC4	100.00 ETH	0	1
F6d3Da2827f	100.00 ETH	0	2
A7ad671A43FcD9	100.00 ETH	0	3
0x6265318Ecb04957c12ff7Ef299996be476Bf3B0B	100.00 ETH	0	4

**Truffle Smart Contract Dashboard**

1. Compile 2. Run Tests

Process Output:

```
> Starting: truffle compile --all
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> Starting: truffle test --compile-all
Using network 'test'.

Compiling your contracts...
> Compiling .\contracts\Portfolio.sol
> Artifacts written to C:\Users\shish\AppData\Local\Temp\test--8436-8q8Knoleki7E
> Compiled successfully using:
  - solc: 0.8.21+commit.d9974bed.Emscripten.clang
```