ArduPilot SITL – Session Log

Date: 2025-09-28

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Session: Build + Run ArduPlane SITL (plane-tailsitter)

# Steps Completed

1. Environment prep  
- Activated Python venv (venv-ardupilot)  
- Verified WSL running

2. X Server setup  
- Started VcXsrv (XLaunch)  
- Set DISPLAY=:0  
- Confirmed with xterm &

3. ArduPilot build  
- ./waf configure --board sitl  
- ./waf plane  
- Confirmed successful build of bin/arduplane

4. Run SITL (Tailsitter)  
- ./Tools/autotest/sim\_vehicle.py -v ArduPlane -f plane-tailsitter --map --console -N  
- Observed SITL startup, parameter load, GUI map + console

5. MAVProxy connection  
- mavproxy.py --master=tcp:127.0.0.1:5760 --out=127.0.0.1:14550 --map --console  
- Detected heartbeat, loaded 1571 params

6. Troubleshooting  
- Fixed '--no-terminal' error → replaced with '-N'  
- Fixed master URI typo (tcp127... ❌ → tcp:127... ✅)

7. Exit procedure  
- Use 'exit' or Ctrl+C in MAVProxy  
- If port hangs: ss -ltnp | grep 5760 → kill -9 <pid>

# Key Learnings

- Always start X server before SITL (xterm & is a quick test)

- Use -N with sim\_vehicle.py in ArduPilot 4.6.x

- MAVProxy requires 'tcp:' prefix before IP

- Tailsitter SITL is best model for V-BAT simulation

# Next Session (Planned)

- Hook up pymavlink to capture heartbeat (first smoke test)

- Integrate pytest (tests/test\_smoke.py)

- Extend system component checks (SYS\_STATUS, AUTOPILOT\_VERSION)