Dynamic Analysis Report - Impl10

1. Execution Context

The program was executed using the command: python chat_node.py. The output indicated that it requires runtime arguments: Usage: python chat_node.py <username> [port] [peer_host:peer_port].

2. Process Snapshot

According to ps.txt, the container contained only minimal processes such as /bin/sh, inotifywait, and the transient python chat_node.py process. No background daemons or additional threads remained active after execution.

3. System Call Trace (strace_log)

System call analysis revealed standard library imports (openat, read) and a single stdout write operation to display the help message. No socket(), connect(), or bind() calls were made, confirming that no network activity occurred.

4. Program Behavior

Since the required parameters were not provided, the program terminated after printing usage instructions. No file writes, key generation, or inter-process communication were observed.

5. Security Observations

Category	Observation	Severity
Execution control	Program requires user arguments to start	None
Network I/O	No sockets or connections observed	None
File I/O	Only read imports; no file writes	None
Process creation	No subprocesses spawned	None

6. Overall Assessment

Behavior: Benign — the program exited normally after missing arguments.

Security posture: Secure — no network, file, or privilege activity detected.

Reliability: High — deterministic help-text output only.

7. Recommendations

1. Re-run the program with valid parameters such as:

   python chat_node.py alice 9001 127.0.0.1:9002

2. No indicators of compromise were detected in this static run.

3. Continue auditing with arguments supplied to trigger real message processing.