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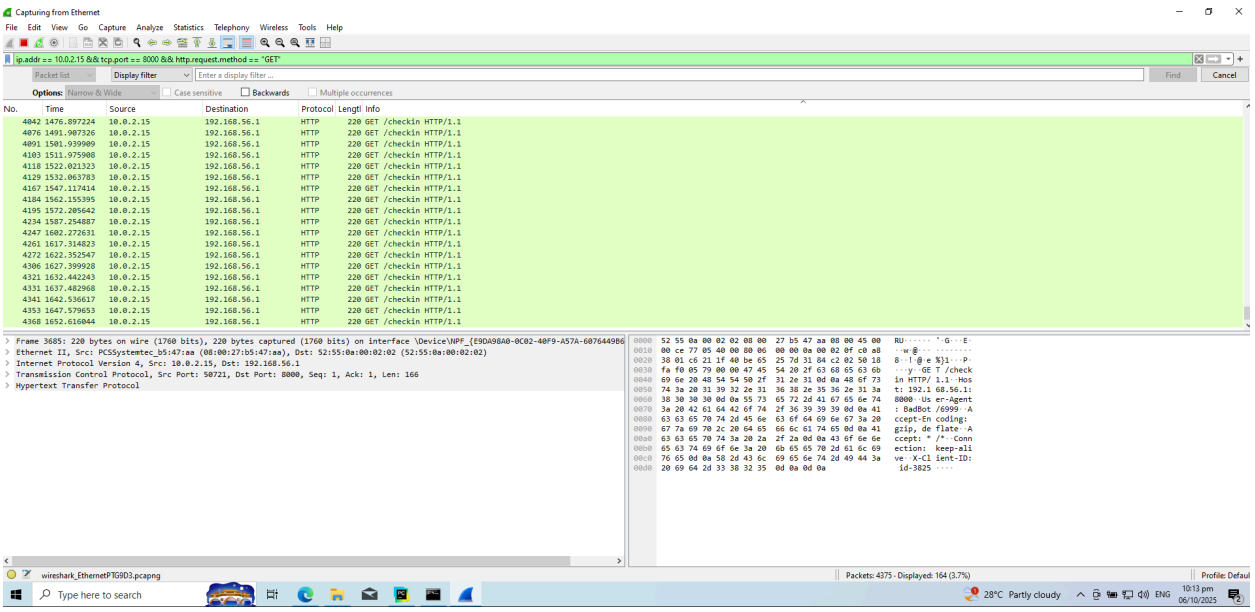
WireShark Network Traffic Analysis
By CrawfordFan223

This is my First Ever project uploaded on GitHub, I am a Third Year BSIT Student specializing in Cybersecurity! Enjoy!



Packet list filtered for GET /checkin showing repeated requests and timestamps.

Description: Packet list filtered for GET requests.
Observation: Multiple `GET /checkin` entries spaced at ~1s intervals.
Interpretation: Confirms automated periodic beaconing behavior.
Wireshark Filter Used:

```
ip.addr == 10.0.2.15 && tcp.port == 8000 &&
http.request.method == "GET"
```

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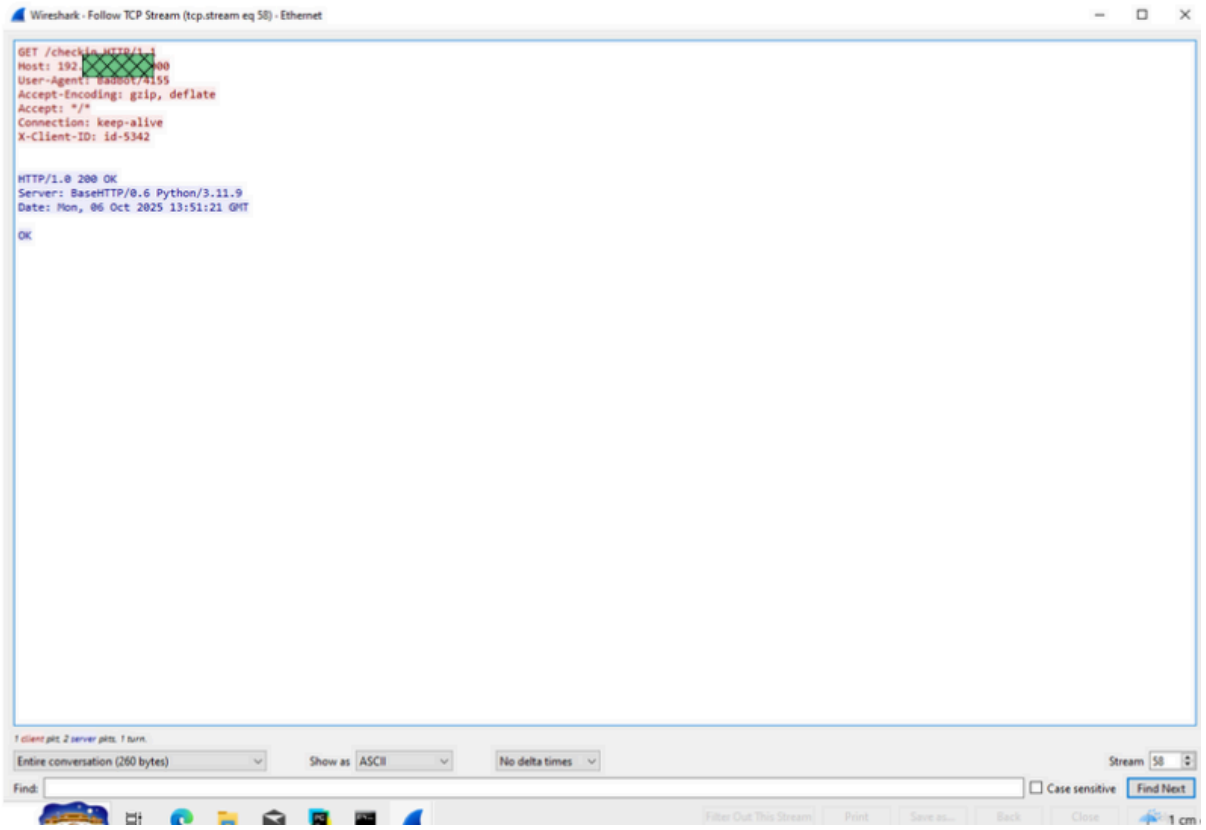

Follow TCP Stream (GET): plaintext `GET /checkin` and server `200 OK` — beaconing visible in the capture.

Description: Follow TCP Stream of `GET /checkin`.
Observation: Plaintext HTTP request with headers: `User-Agent: BadBot/4155`, `X-Client-ID: id-5342` and `HTTP/1.0 200 OK` response.
Interpretation: Confirms periodic beaconing from the VM to the host.

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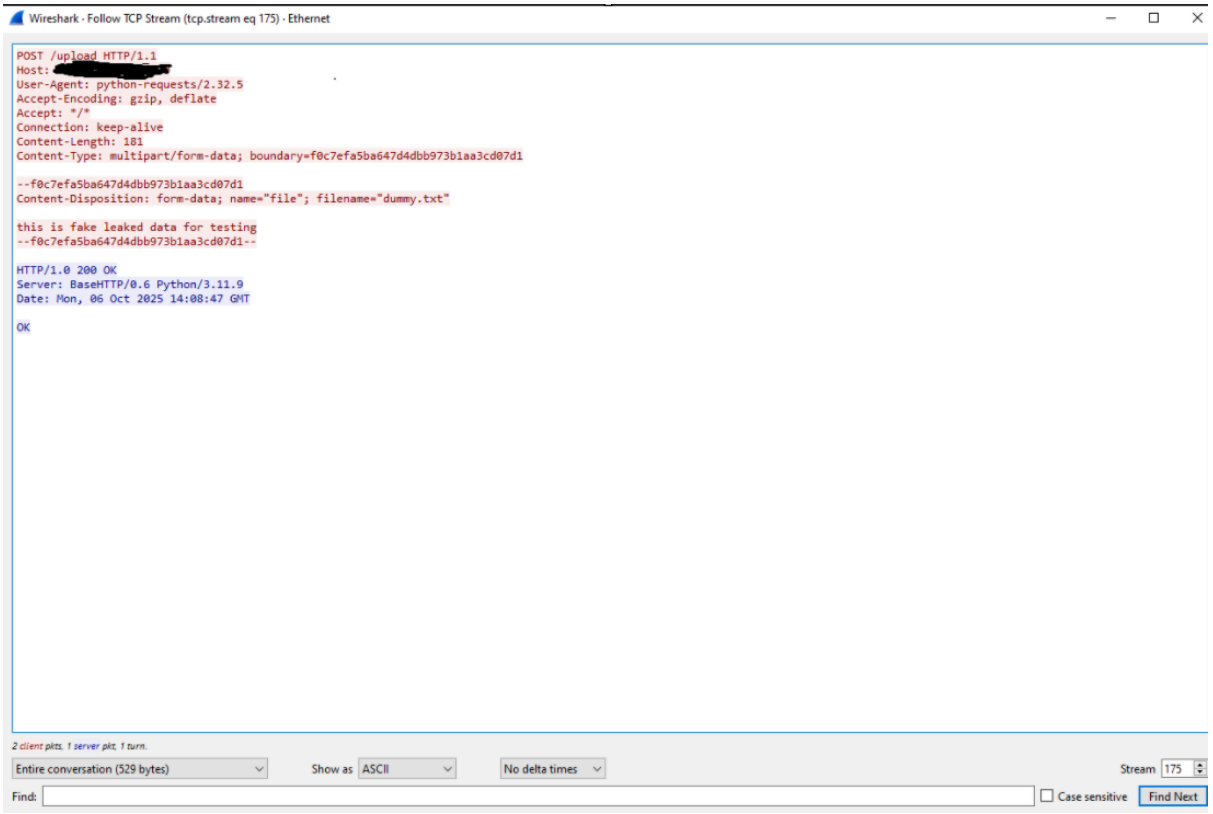

Follow TCP Stream (POST): multipart upload with file contents visible — plaintext exfiltration.

Description: Follow TCP Stream of `POST /upload`.

Observation: `multipart/form-data` request with `dummy.txt` contents visible.
Example body snippet:

```
Content-Disposition: form-data; name="file";
filename="dummy.txt"
this is fake leaked data for testing
```

Interpretation: Demonstrates plaintext data exfiltration.

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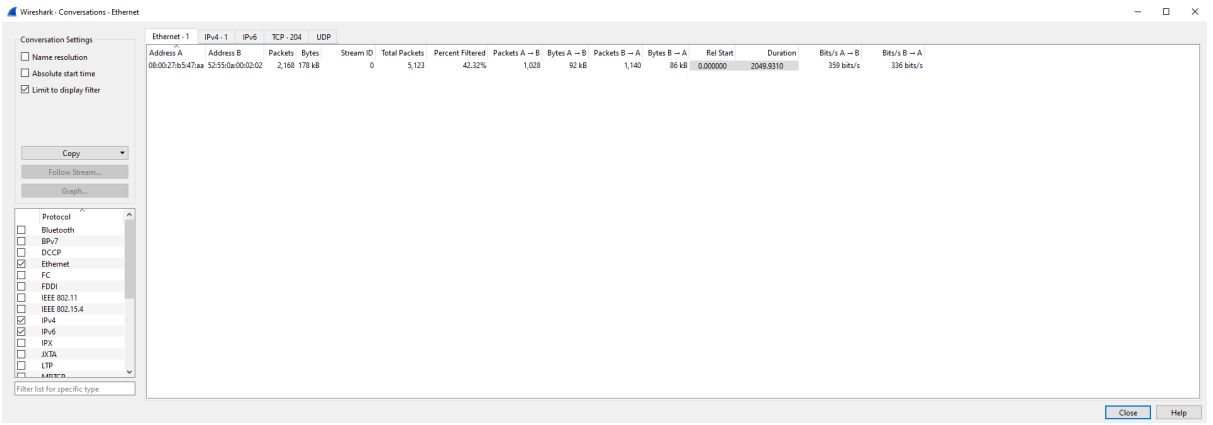
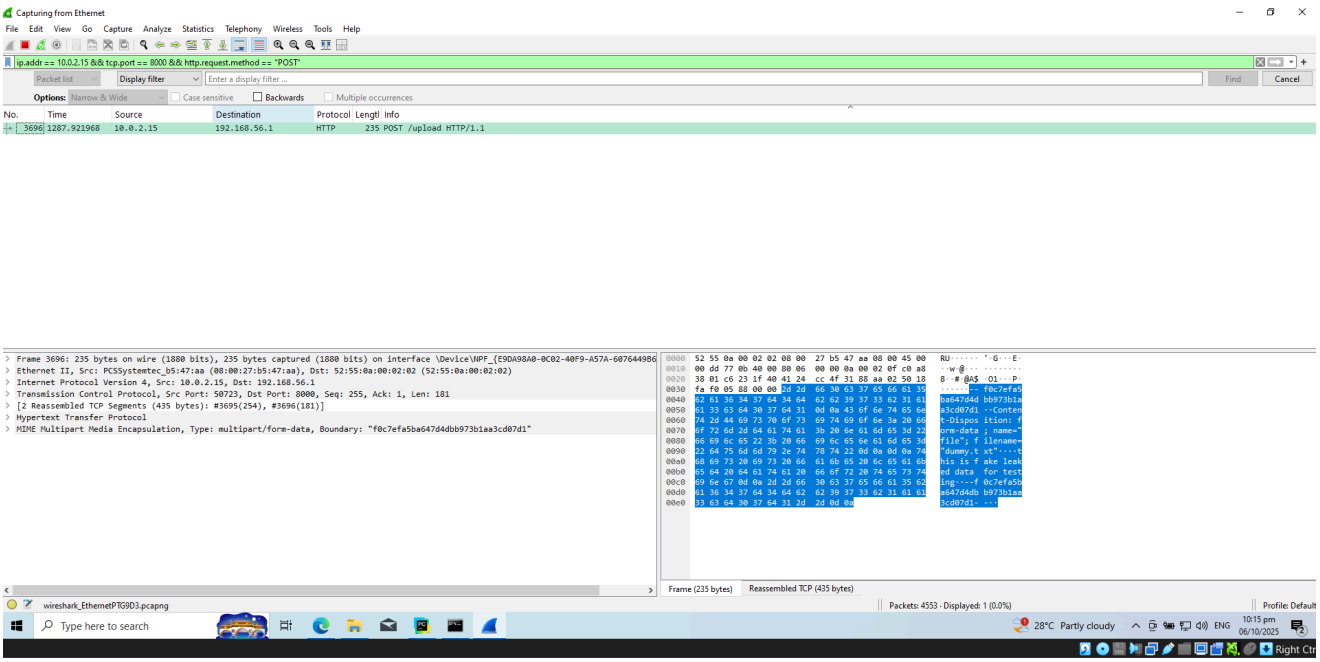


Conversations: quantifies packet count, bytes, and session duration between attacker VM and host.

Description: *Wireshark "Conversations" view showing IP pairs, packet counts, bytes, and duration.*

Observation: *One dominant conversation between VM (attacker) and host (receiver).*

Interpretation: *Quantifies total traffic exchanged during the C2/exfil session.*



Confirms payload reconstruction and visible data content.

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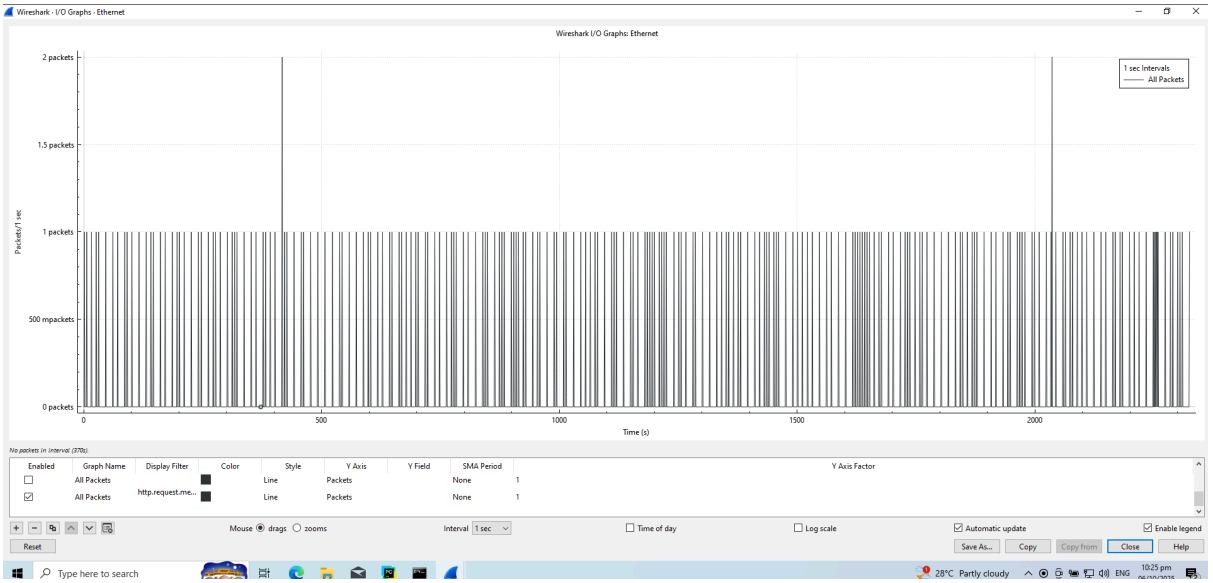
Description: Packet detail pane for POST reassembly.
Observation: Shows “Reassembled TCP Segments” and MIME multipart decode.
Interpretation: Confirms payload reconstruction and visible data content.



Repeated requests at regular intervals; evidence of automated beaconing.

What the image shows: Packet list filtered to show `GET /checkin` packets (with timestamps). You can see many lines of `GET /checkin` and their time column.

What to point at:

- The repeated `GET /checkin` entries in the Info column.
- The Time column — intervals between requests (use this to show ~1s periodicity).
- The bottom packet details/hex if you want to show payload.

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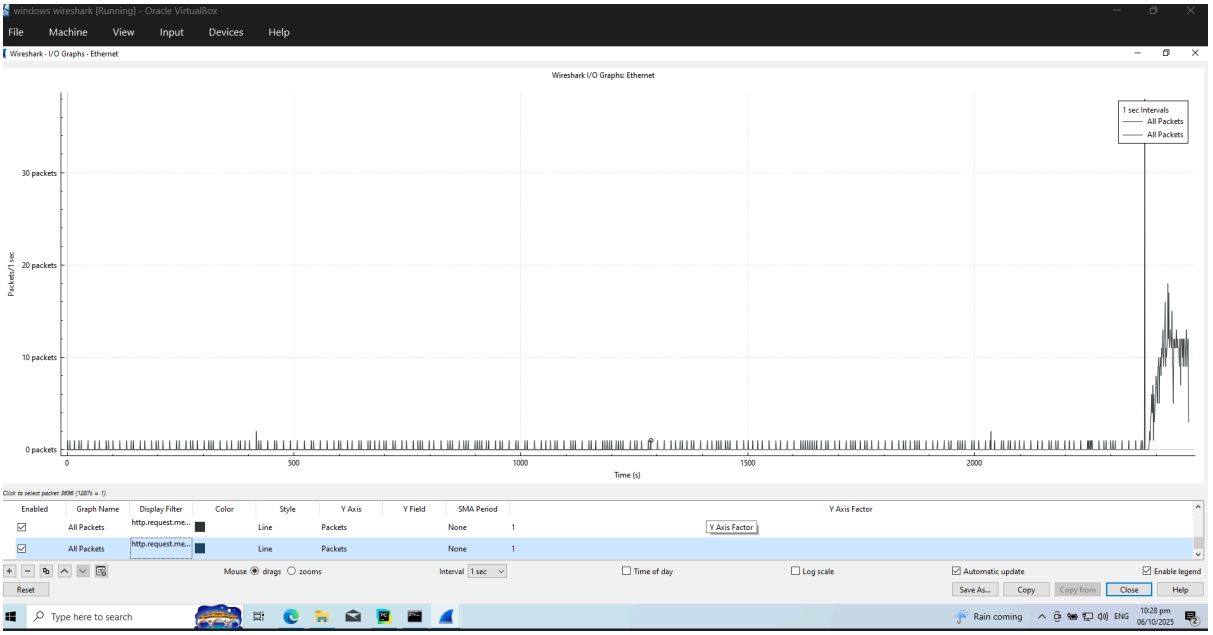

I/O Graph (filtered): steady 1s beaconing intervals followed by a higher-volume transfer.

What the image shows: Zoomed I/O Graph (filtered) showing the periodic GET spikes (around 1/sec) followed later by increased traffic. Probably two plotted series (GET filter vs all packets).

What to point at:

- The repeated 1/sec spikes spread across the capture (shows periodicity).
- The later section where amplitude increases (switch to bulk/ upload).

What it proves: The GETs are automated and periodic, and later traffic increases — typical behavior for a callback then data transfer.

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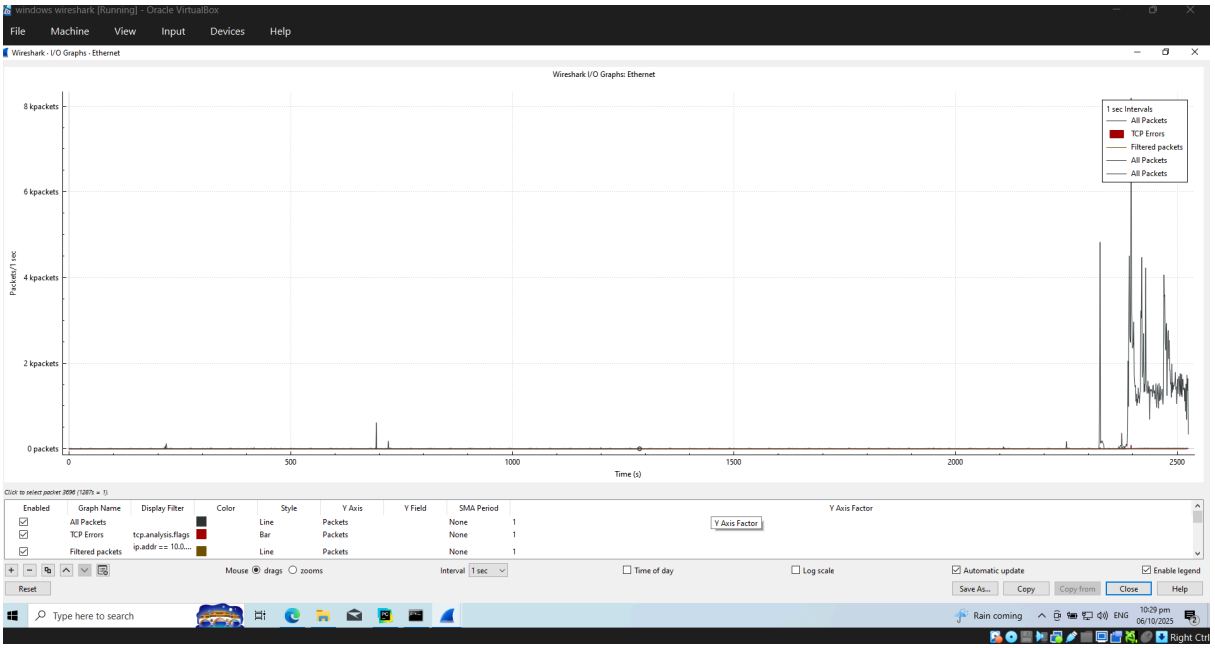

I/O Graph: baseline idle activity followed by a burst consistent with beaconing and subsequent data transfer

What the image shows: Wireshark I/O Graph for “All Packets” over the entire capture. Most of the capture is near-zero traffic, then near the far right you see a clear cluster of traffic spikes (a burst).

What to point at in the screenshot:

- The long baseline of near-zero packet rate (normal/idle).
- The cluster of high spikes at the right edge (time of beaconing/exfiltration).

What it proves: There was a prolonged quiet period followed by a sudden increase in traffic — consistent with periodic beaconing that later escalates into a burst/upload.