Burp Suite Community Edition

Manual Report

IT Support Chatbot project -Burp Suite vulnerability assessment report
Site: https://sec.cse.csusb.edu/team1
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Objective

- To identify and analyze potential vulnerabilities in the chatbot system using Burp Suite Community Edition

Methodology

- **Approach**:
  - Intercept and analyze HTTP request and responses
  - Test for common vulnerabilities like SQL injection and security misconfigurations

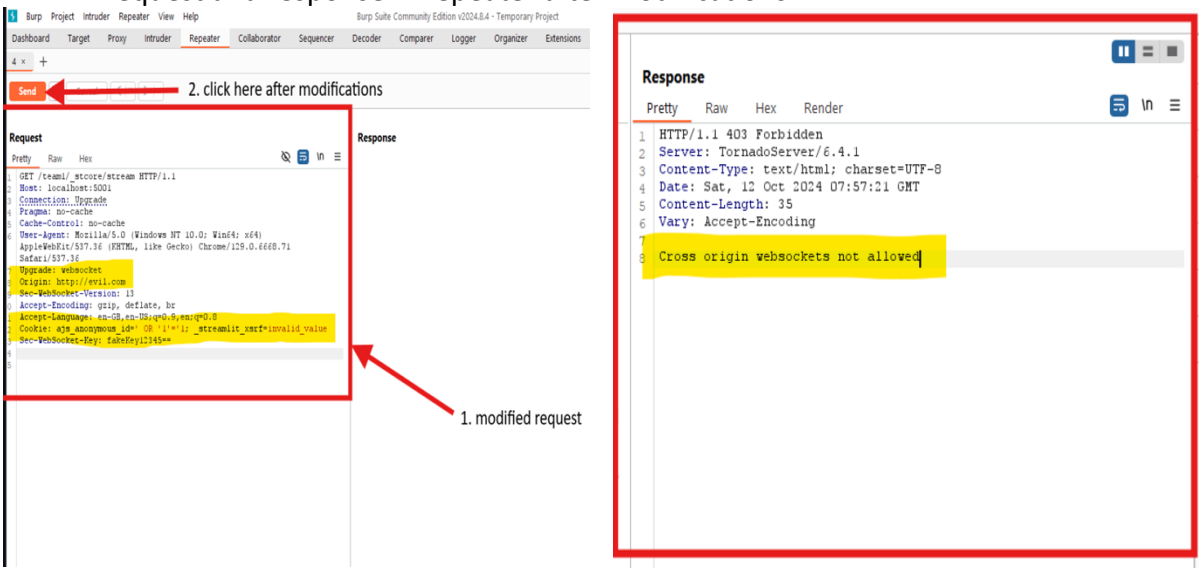
Findings

- **Overview Table**:

Vulnerability	Severity	Description	Recommendation
Cross-Origin WebSocket Hijacking (CSWSH)	Low	Server blocks unauthorized WebSocket connections.	Maintain configuration. Test for bypass.
Improper Origin Validation	Medium	Server relies on expected origins.	Enhance origin verification with tokens.
Security Misconfiguration	Low	Default WebSocket settings permit insecurity.	Audit and update WebSocket settings.

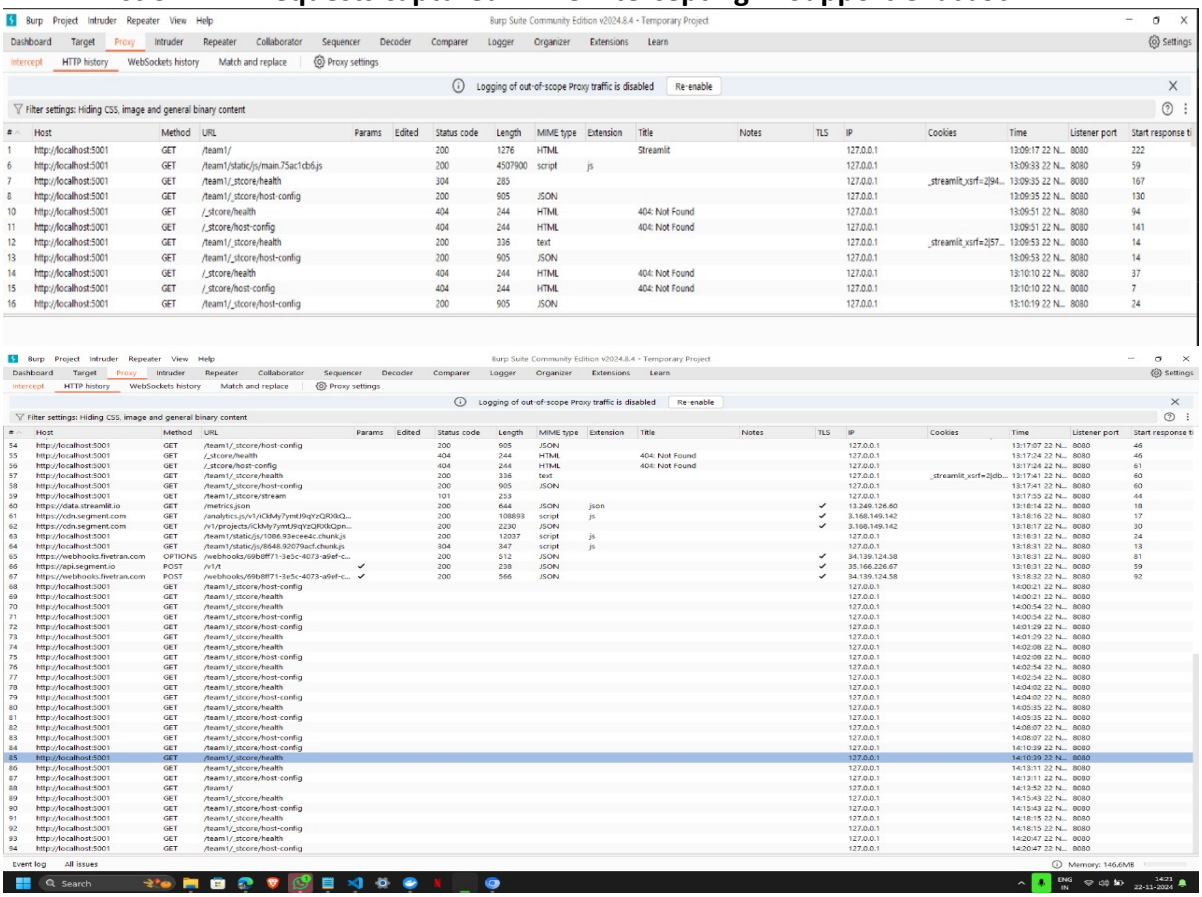
Burp Suite screenshots

- Request and response in repeater after modifications



HTTP requests

- **List of HTTP requests captured while intercepting IT Support Chatbot**



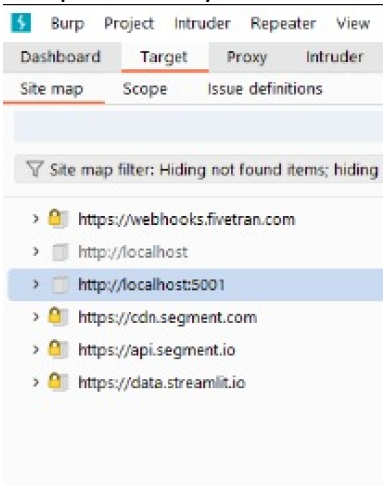
Target Tab and Sitemap

- Sitemap Analysis

Endpoint	Method	Description
/webhooks.fivetran.com	POST	Handles incoming webhooks from Fivetran
/localhost:5001	GET	Local development server endpoint
/cdn.segment.com	GET	Retrieves static assets for Segment integration
/api.segment.io	POST	API endpoint for Segment data collection
/data.streamlit.io	GET	Accesses data hosted on Streamlit's servers

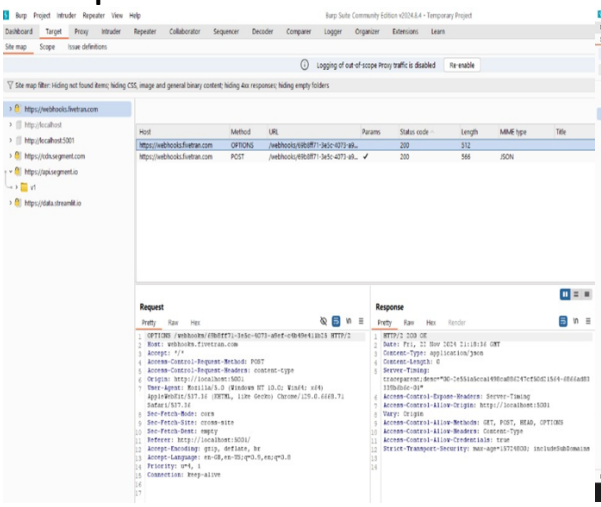
Sitemap screenshots

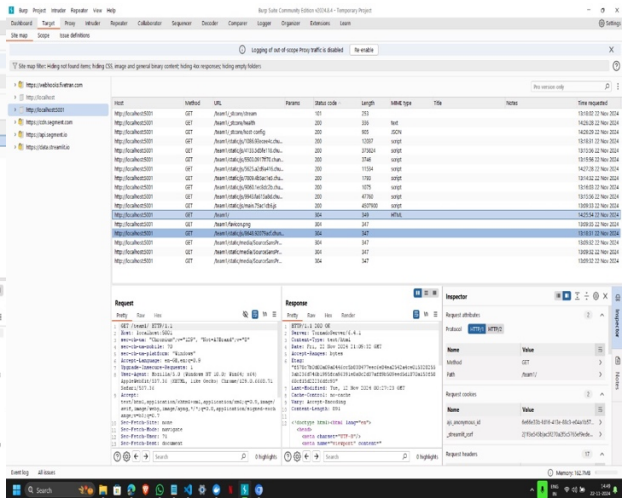
- End points analyzed

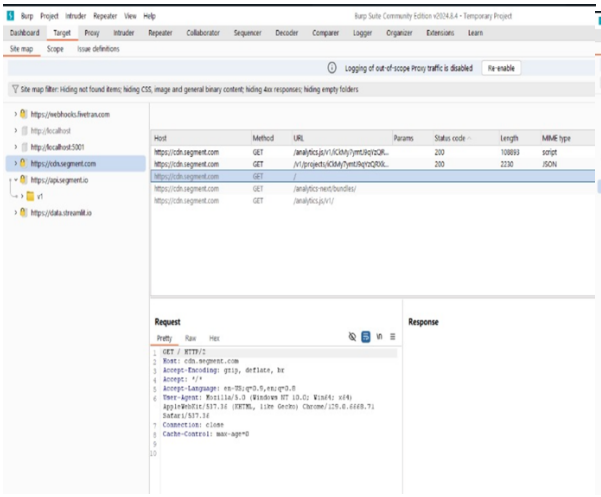


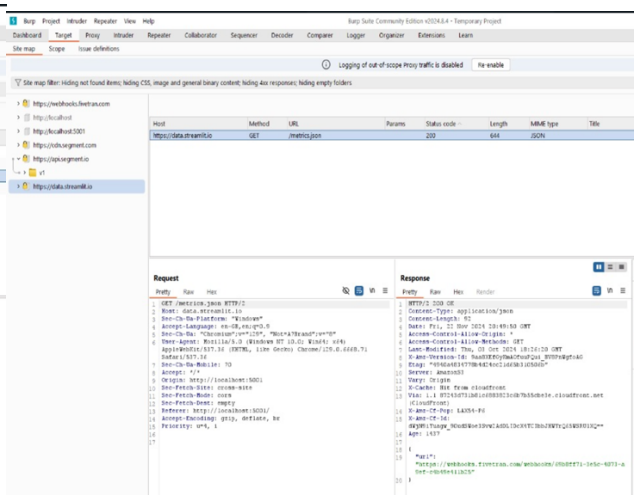
- Endpoint: /webhooks.fivetran.com, /localhost:5001, /cdn.segment.com, /api.segment.io , /data.streamlit.io
- **/webhooks.fivetran.com**: 200 OK status. Proper handling of data sent to the endpoint
- **/localhost:5001**: 200 OK. The server is running correctly and serving the content as expected during local testing
- **/cdn.segment.com**: 200 OK. Static assets scripts, stylesheets were retrieved successfully, suggesting no issues with content delivery
- **/api.segment.io**: 200 OK status. The API endpoint successfully handled the request, likely returning data related to user tracking, analytics
- **/data.streamlit.io**: 200 OK status. Confirms that the data hosted on Streamlit’s platform was successfully accessed

Sitemap screenshots:





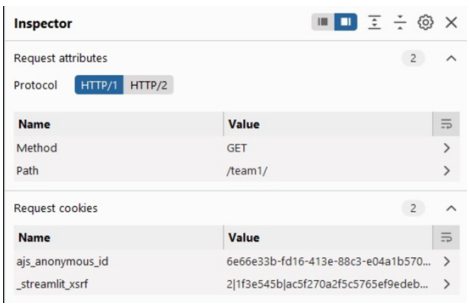


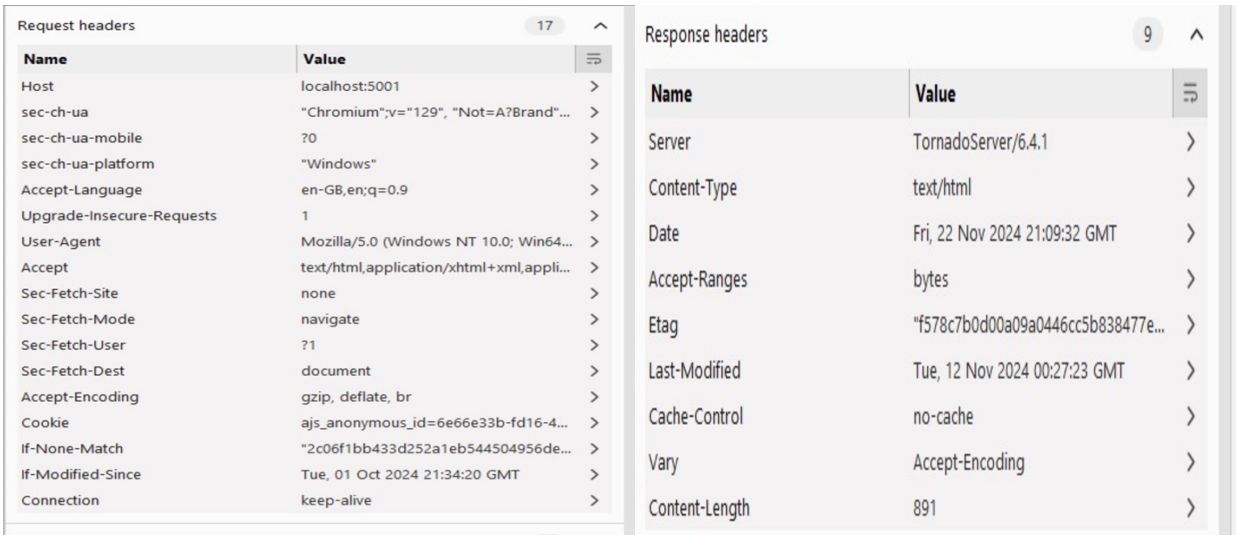


Dash board inspector

- **Request Headers:** "Connection: keep-alive" header keeps the connection open for multiple requests, improving network performance by reusing the same connection
- **Response Headers: "**vary: Accept -Encoding" the response may change based on the client's Accept-Encoding, typically to handle compressed formats like gzip or deflate

Screenshots of inspector





Request headers 17

Name	Value
Host	localhost:5001
sec-ch-ua	"Chromium";v="129", "Not=A?Brand"...
sec-ch-ua-mobile	?0
sec-ch-ua-platform	"Windows"
Accept-Language	en-GB,en;q=0.9
Upgrade-Insecure-Requests	1
User-Agent	Mozilla/5.0 (Windows NT 10.0; Win64...
Accept	text/html,application/xhtml+xml,appli...
Sec-Fetch-Site	none
Sec-Fetch-Mode	navigate
Sec-Fetch-User	?1
Sec-Fetch-Dest	document
Accept-Encoding	gzip, deflate, br
Cookie	ajs_anonymous_id=6e66e33b-fd16-4...
If-None-Match	"2c06f1bb433d252a1eb544504956de...
If-Modified-Since	Tue, 01 Oct 2024 21:34:20 GMT
Connection	keep-alive

Response headers 9

Name	Value
Server	TornadoServer/6.4.1
Content-Type	text/html
Date	Fri, 22 Nov 2024 21:09:32 GMT
Accept-Ranges	bytes
Etag	"f578c7b0d00a09a0446cc5b838477e...
Last-Modified	Tue, 12 Nov 2024 00:27:23 GMT
Cache-Control	no-cache
Vary	Accept-Encoding
Content-Length	891

Conclusion

- **HTTP Headers**
  - **“**Connection: keep-alive” enhances performance but may pose security risks if not managed
  - **“**Vary: Accept-Encoding**”** optimizes caching but could lead to cache poisoning if misconfigured
- **Sitemap Endpoints**
  - /webhooks.fivetran.com, /localhost:5001, /cdn.segment.com, /api.segment.io, /data.streamlit.io were accessible, indicating functional responses
- **WebSocket Security Testing**
  - The server blocks WebSocket connections from unauthorized origins, preventing CSWSH, with strong protections against header modifications like Origin, Sec-WebSocket-Key, and Sec-WebSocket-Protocol