CTF Write-up — Jingle Bells

Category: Crypto / Audio

Points: 25

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Description

This challenge provides a WAV audio file that does not sound like Jingle Bells. The objective is to analyze the audio and extract the hidden message.

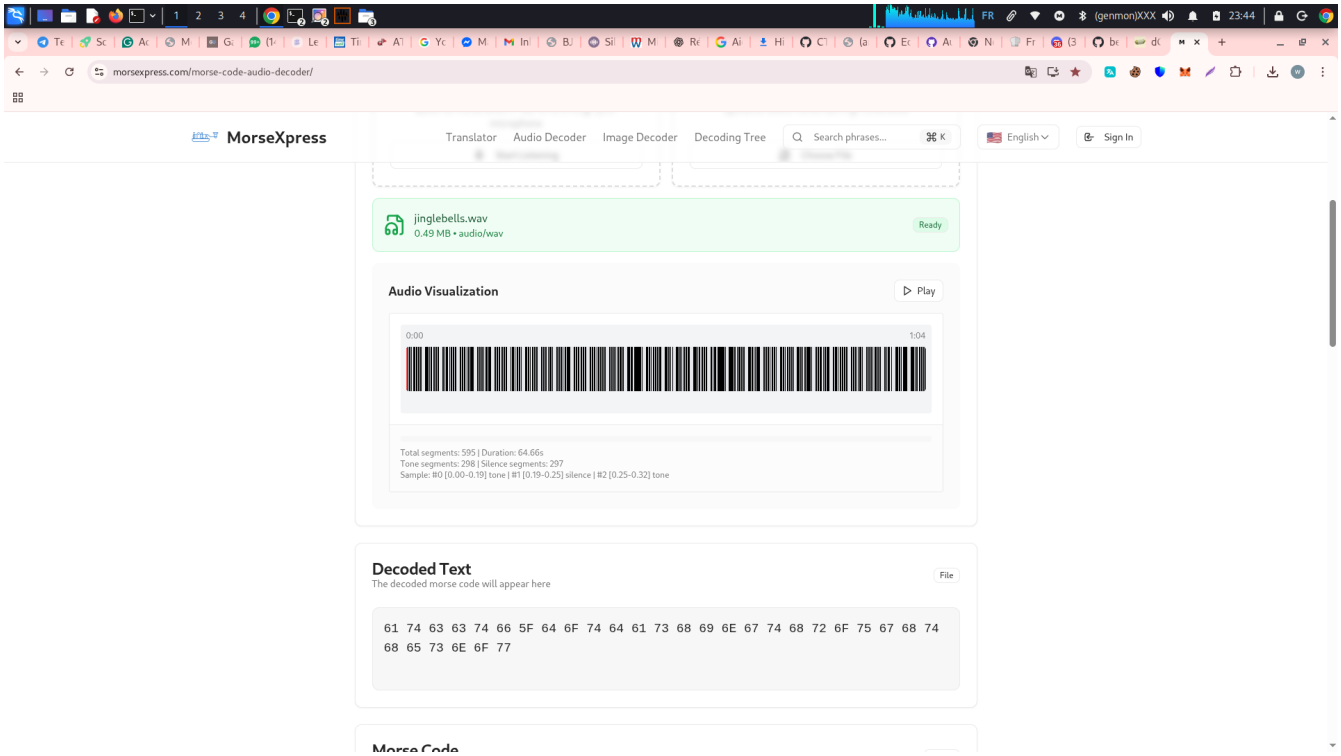
Step 1 — Spectrogram Analysis (Sonic Visualiser)

The audio file was opened in Sonic Visualiser and a spectrogram layer was added. The visualization revealed repeating short and long signals, indicating Morse code.

Step 2 — Morse Decoding (MorseXpress)

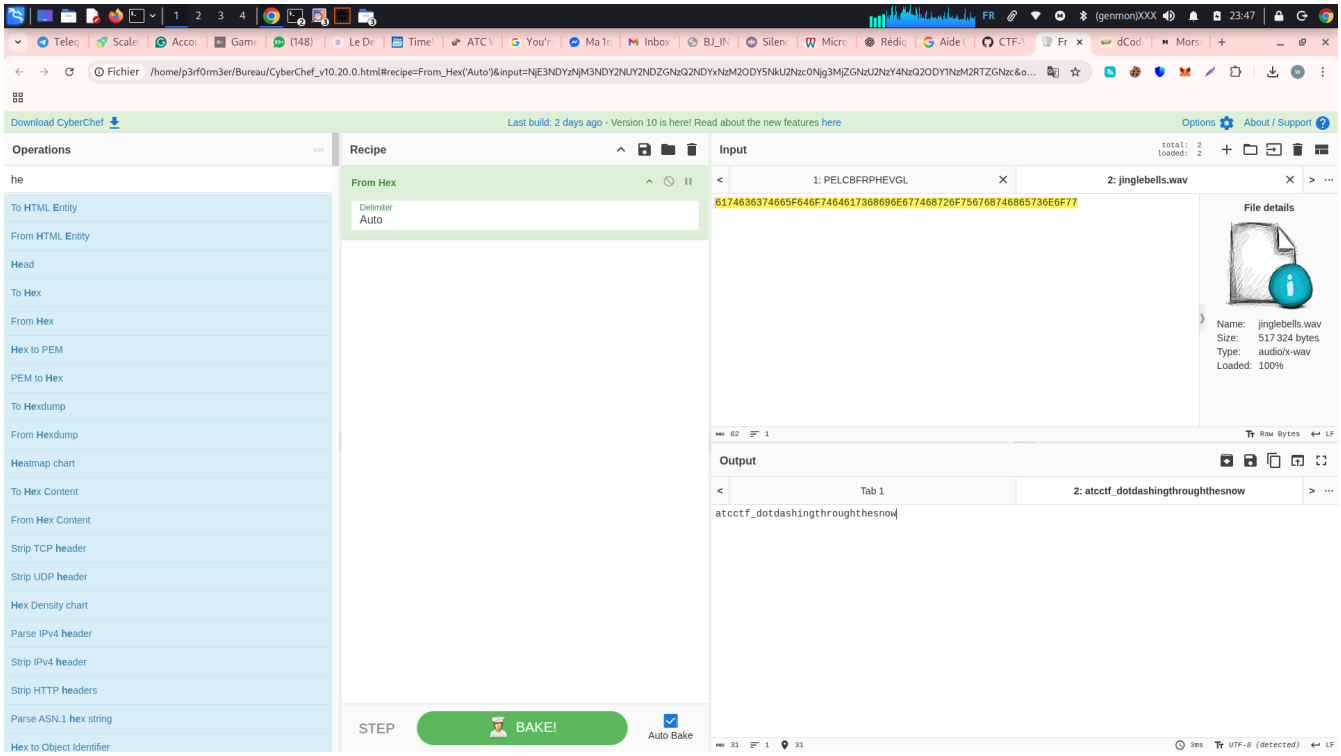
The audio file was uploaded to https://morsexpress.com/morse-code-audio-decoder/. The platform decoded the Morse signals and returned a hexadecimal string.

61 74 63 63 74 66 5F 64 6F 74 64 61 73 68 69 6E 67 74 68 72 6F 75 67 68 74 68 65 73 6E 6F 77



Step 3 — Hex Decoding (CyberChef)

The hexadecimal output was decoded using CyberChef with the 'From Hex' operation.



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Conclusion

This challenge combines audio analysis, Morse code decoding, and hexadecimal decoding. It demonstrates how multi-layered data can be hidden inside audio files.

Tools Used

- Sonic Visualiser
- MorseXpress
- CyberChef