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| Juiceshop Walkthrough Diploma in CSF  Year 3 Apr 2022 (Semester 5) | Week 2 |
| Practical |
| Forged Coupon | |

**OBJECTIVES**

* To perform cryptographic identification and analysis on sensitive information
* OWASP vulnerabilities: Sensitive Data Exposure and Cryptographic Failures (A03:2017, A02:2021)

**Challenge – Forged Coupon**

* To forge a coupon code that gives a discount of at least 80%
* Forged Coupon - Difficulty: 6/6 stars

**Step 1**

Retrieve information and clues from the ‘coupons\_2013.md.bak’ file taken from the “Forgotten Sales Backup” challenge.

Graphical user interface

Description automatically generated with medium confidence

**Step 2**

As we can see in the above, these codes seem to be encrypted. Retrieve the backup file that was obtained in “Forgotten Developer Backup”: ‘package.json.bak’ to find any other clues for the encryption algorithm used.

Text

Description automatically generated

Identify the 2 libraries that stand out which are ‘hashids’ and ‘z85’ since these are the most likely to be some sort of encryption algorithms. However, considering how similar the coupons were, the encryption algorithm in question would be is z85, which is a simpler algorithm than hashing.

**Step 3**

Search up a Z85 decoder to plug in a coupon to test it.

Graphical user interface, application

Description automatically generated

**Step 4**

Try the other coupons, especially the one ending with ‘ss’.

Graphical user interface, application

Description automatically generated

Graphical user interface, application

Description automatically generated

**Step 5**

Analyze the string and figure out the coupon format: MonthYear-Percentage.

Write your own coupon, FEB22-80 and encrypt it with Z85, giving you an 80% discount. Encrypting it returns the following.

Graphical user interface, text, application

Description automatically generated

**Step 6**

Go to the site, login, and place a random item in the basket and attempt to buy it.

Graphical user interface, text, application

Description automatically generated

Text

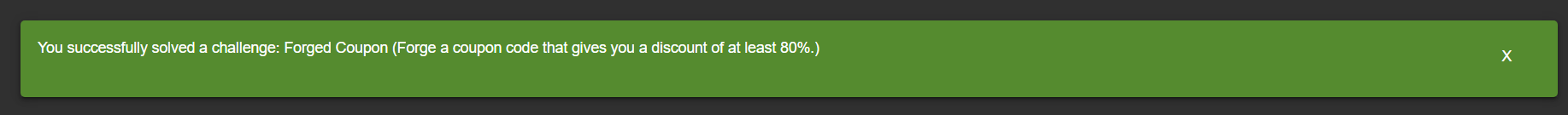
Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

**Step 7**

Place the order and the challenge should be completed.



**~ End of Challenge ~**