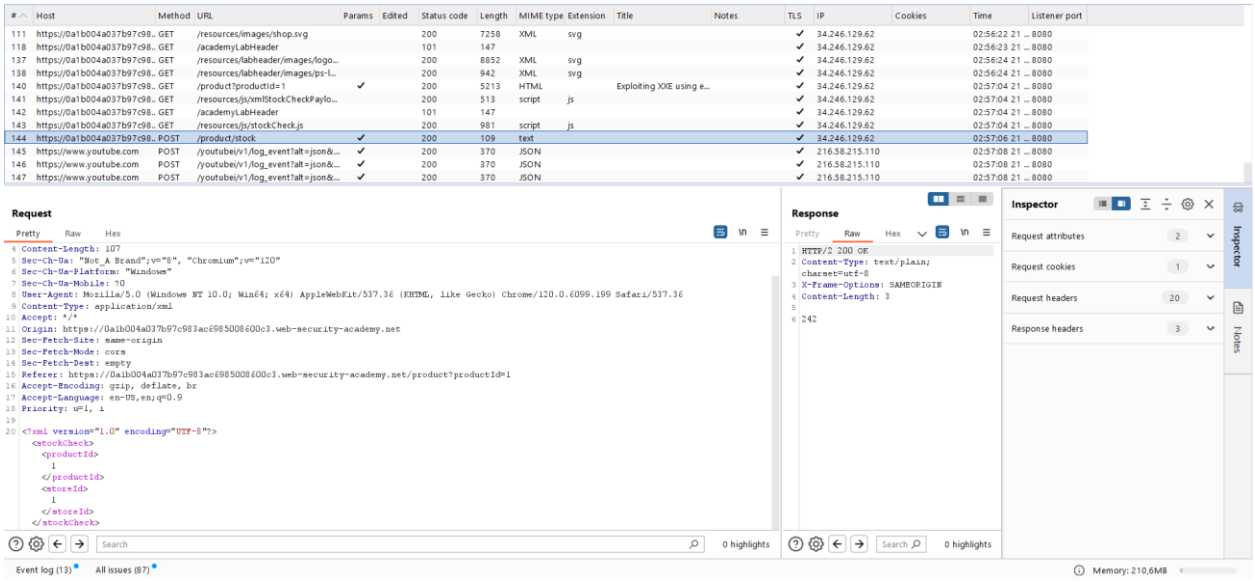
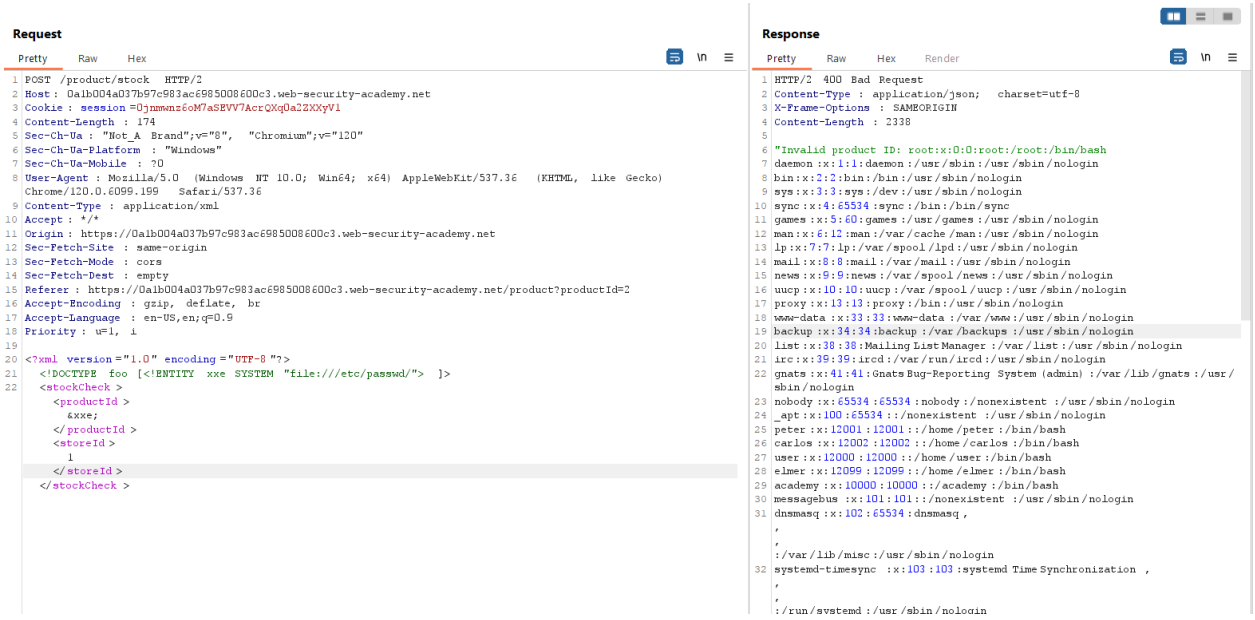
XXE Injection

LAB 93 Exploiting XXE using external entities to retrieve files

Website contains functionality on checking items' stock. It is done in POST /product/stock request:



As one can see, it contains XML data inside, having productID parameter inside. It might be vulnerable to XXE attack. I have injected an XXE 'xxe' as new doctype to fetch for /etc/passwd file:



As a response, I received an error code 400 Bad Request AND the contents of /etc/passwd

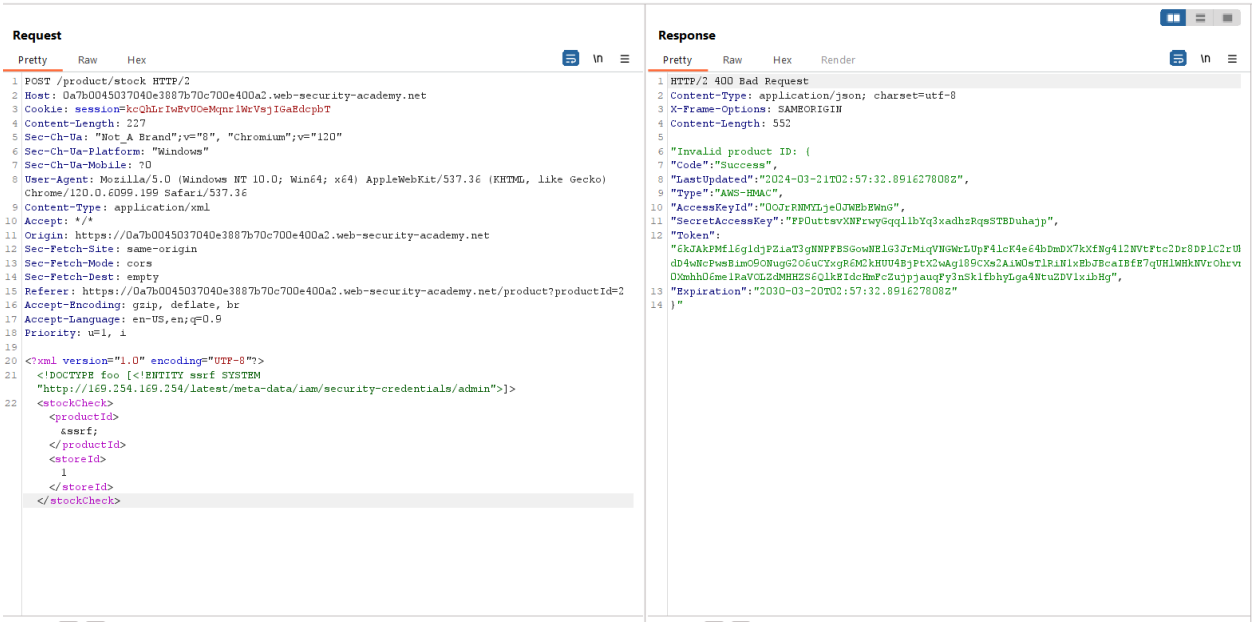
LAB 94 Exploiting XXE to perform SSRF attacks

The lab server is running a (simulated) EC2 metadata endpoint at the default URL, which is http://169.254.169.254/. This endpoint can be used to retrieve data about the instance, some of which might be sensitive.

The goal is to obtain the server's IAM secret access key from the EC2 metadata endpoint.

According to AWS documentation, the IAM secret can be obtained at

So, let's inject an XXE that will fetch http://169.254.169.254/latest/meta-data/iam/security-credentials/admin:



Great. I have received both AccessKeyID, SecretAccessKey and Token:

"Code" : "Success",

"LastUpdated" : "2024-03-21T02:57:32.891627808Z",

"Type" : "AWS-HMAC",

"AccessKeyId" : "0OJrRNMYLje0JWEbEWnG",

"SecretAccessKey" : "**FP0uttsvXNFrwyGqql1bYq3xadhzRqsSTBDuhajp**",

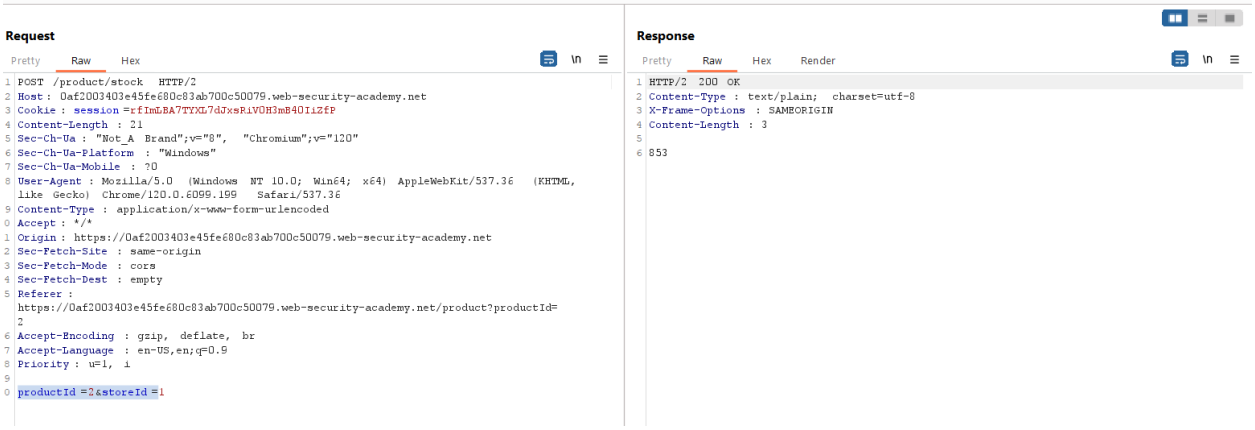
"Token" :
"6kJAkPMfl6g1djPZiaT3gNNPFBSGowNElG3JrMiqVNGWrLUpF4lcK4e64bDmDX7kXfNg412NVtFtc2Dr8DPlC2rUbr7cTdD4wNcPwsBimO9ONugG2O6uCYxgR6M2kHUU4BjPtX2wAg189CXs2AiW0sTlRiN1xEbJBcaIBfE7qUHlWHkNVrOhrvm2GjL0Xmhh06me1RaVOLZdMHHZS6QlkEIdcHmFcZujpjauqFy3nSk1fbhyLga4NtuZDV1xibHg",

"Expiration" : "2030-03-20T02:57:32.891627808Z"

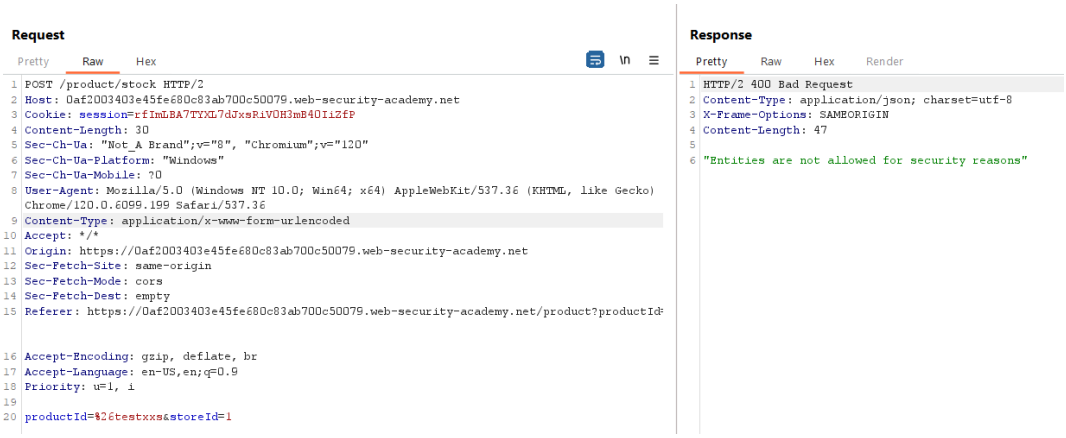
LAB 95 [Exploiting XInclude to retrieve files]

The goal is to obtain /etc/passwd contents.

At first sight, this lab seems not to be vulnerable to XXE:

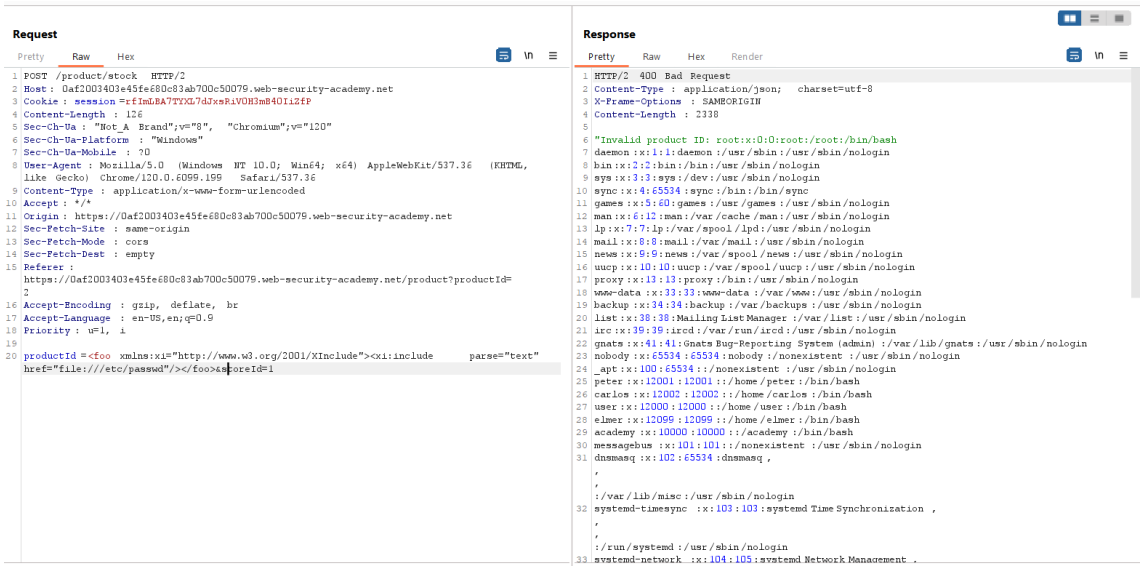


However, I tried to replace one of the parameters' value to XML arbitrary type and received the following error message:



So, the XML entity was accepted, but there is sort of protection present. This could be bypassed by introducing XInclude which is a part of XML specification. It can be done in following:

```
<foo xmlns:xi="http://www.w3.org/2001/XInclude"><xi:include parse="text" href="file:///etc/passwd"/></foo>
```



Bingo! I can see /etc/passwd/ contents.

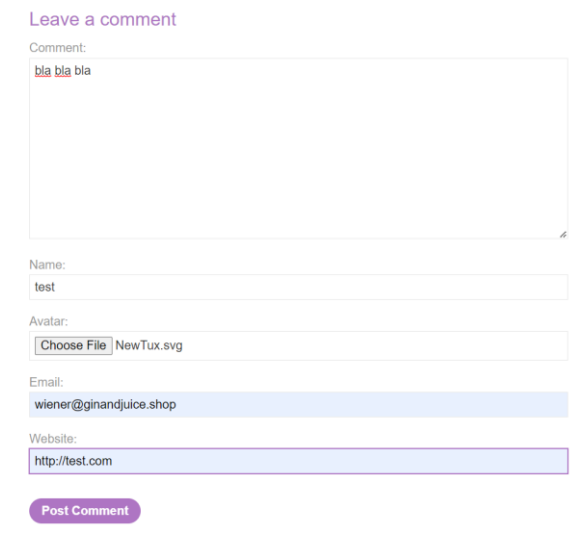
LAB 96 Exploiting XXE via image file upload

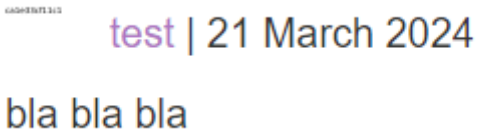
This lab lets users attach avatars to comments and uses the Apache Batik library to process avatar image files.

The goal is to obtain /etc/hostname file.

Apache Batik renders SVG files. SVG is an XML based format, so let's create an SVG picture with the following content:

Now, I will upload this .svg image as my profile picture:





The comment was added successfully and I can see a mini avatar in front of my name, let's open it in new tab:

```
ca1e33cf11c1
```

This is the hostname I was looking for.

/etc/hostname: ca1e33cf11c1

Congratulations, you solved the lab!