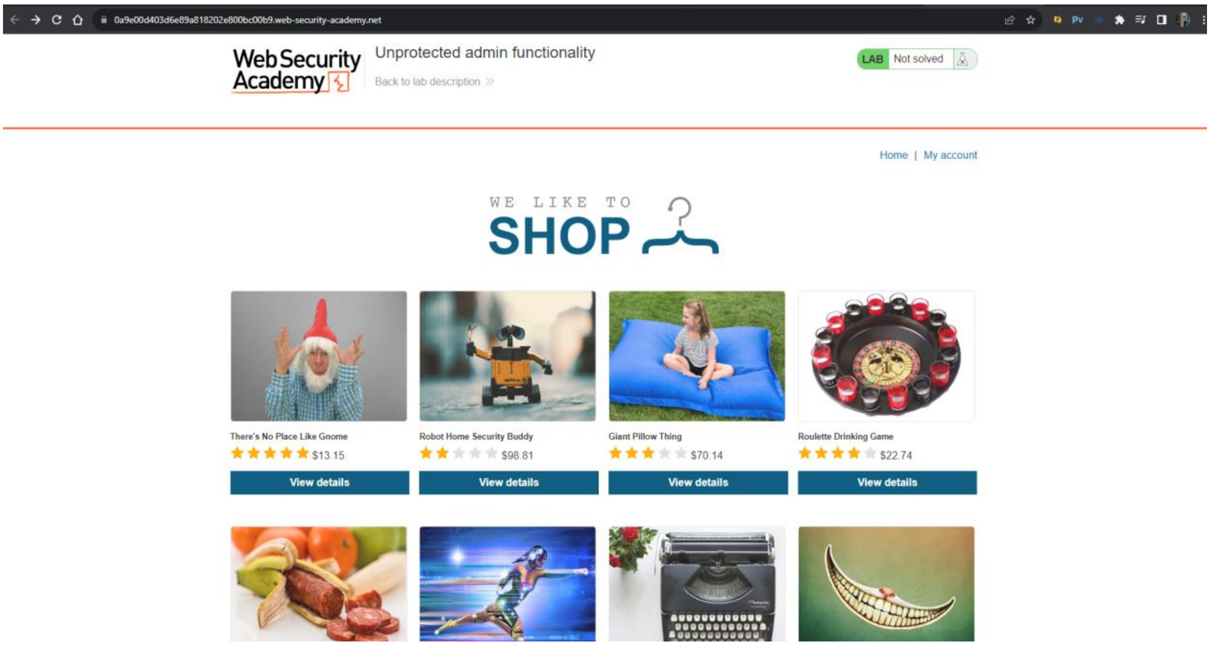
ASSIGNMENT 1

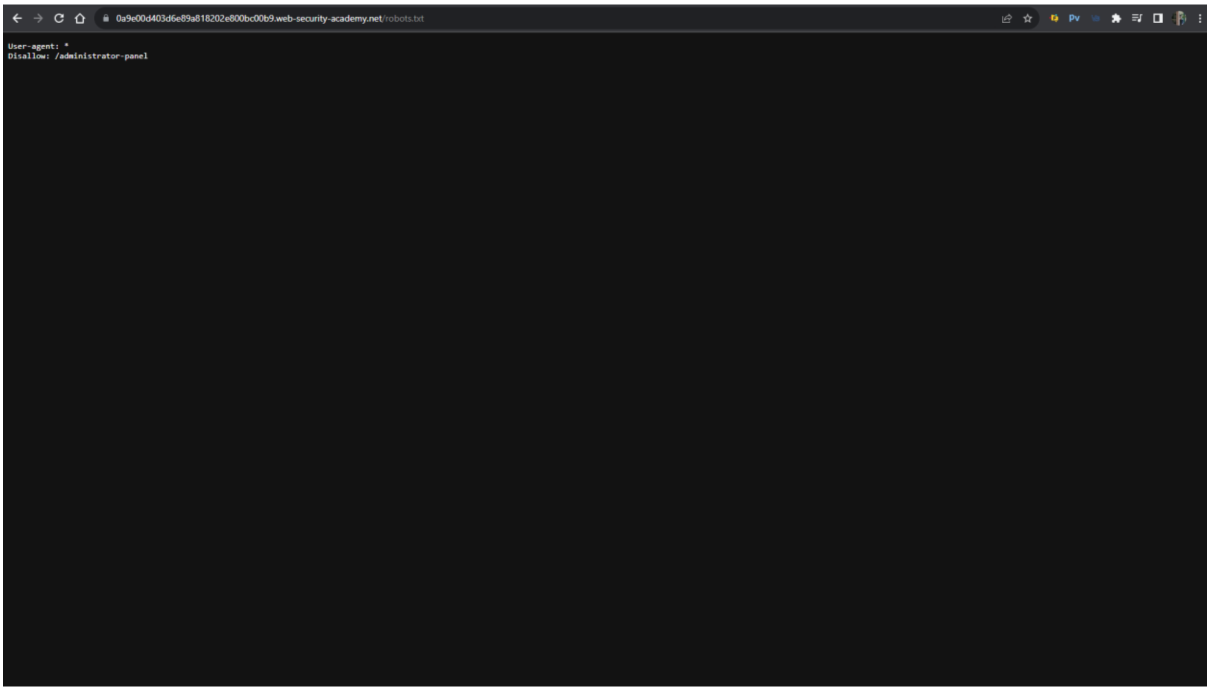
CHECKING THE TOP 5 CWE VULNERABILITIES

BROKEN ACCESS CONTROL:

Access the website

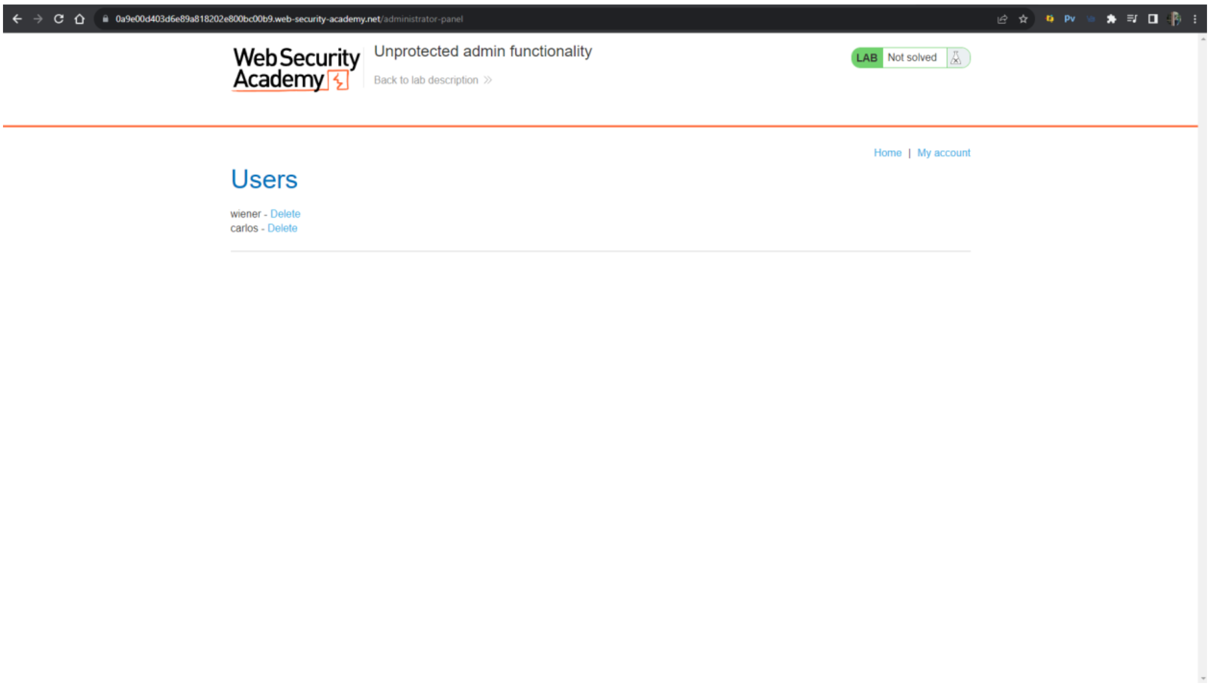


In the url add /robots.txt


0a9e00d403d6e89a818202e800bc00b9.web-security-academy.net/robots.txt

```
User-agent: *
Disallow: /administrator-panel
```

Add /administrator-panel



0a9e00d403d6e89a818202e800bc00b9.web-security-academy.net/administrator-panel

Unprotected admin functionality

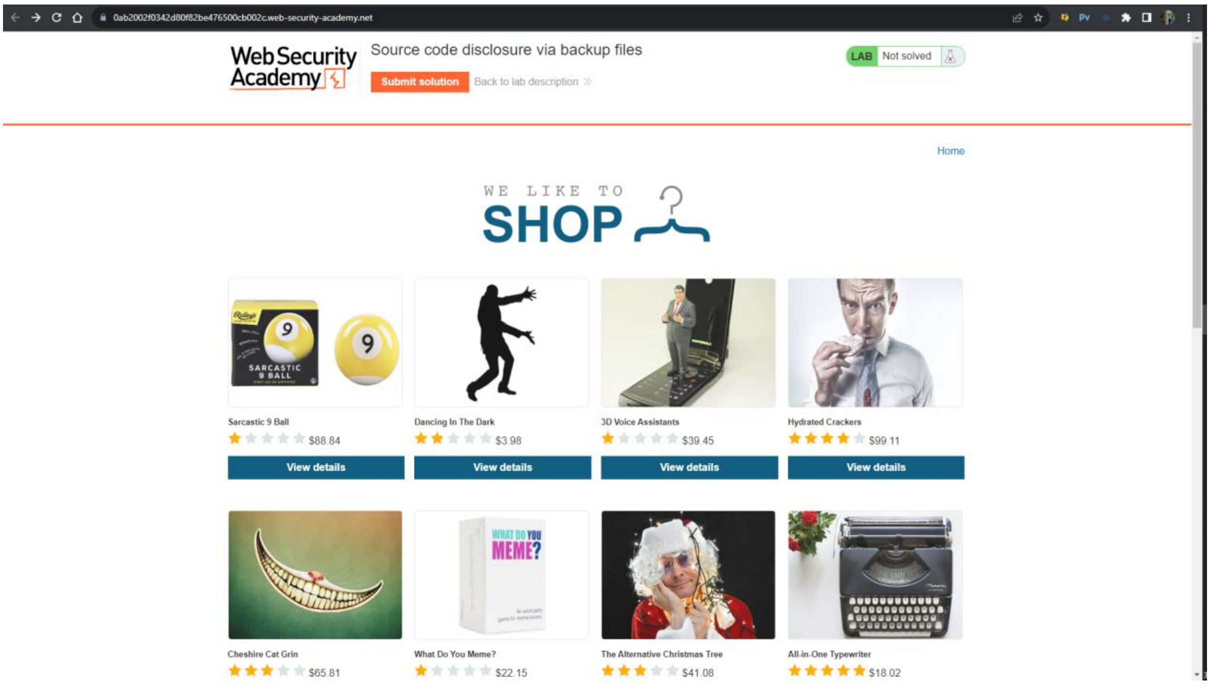
Users

wiener - Delete
carlos - Delete

hence this website has a broken access vulnerability

CRYPTOGRAPHIC FAILURES

Access the website

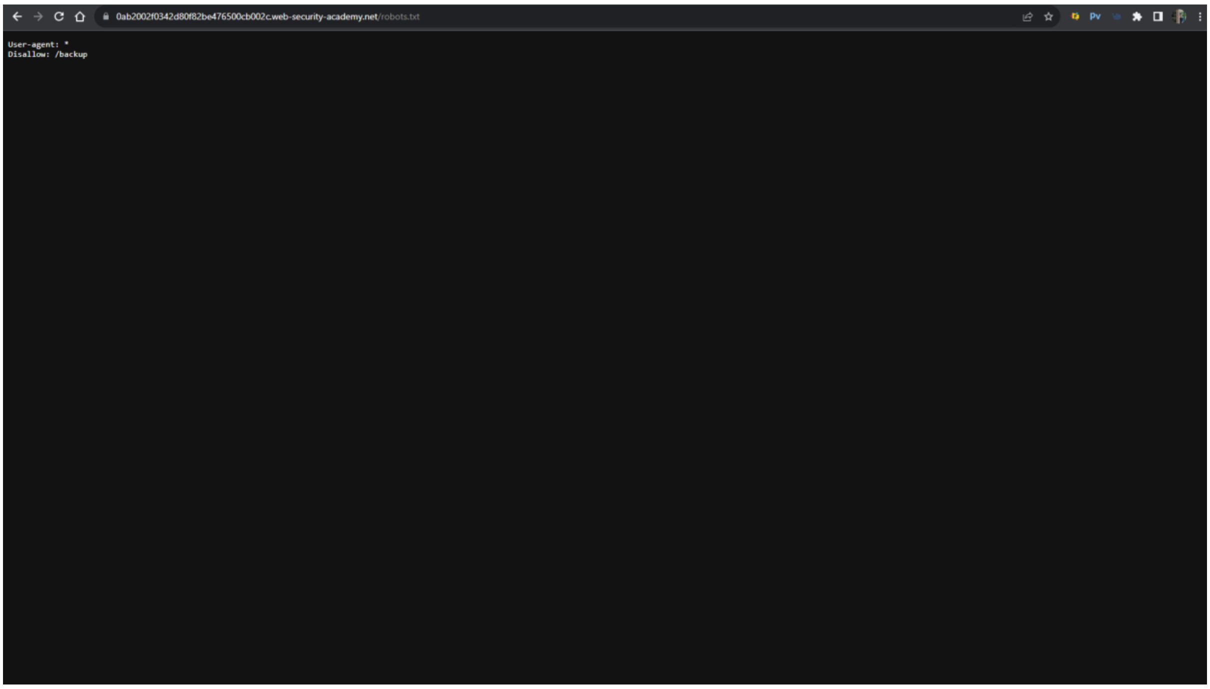


0ab2002f0342d80f82be476500cb002c.web-security-academy.net

Source code disclosure via backup files

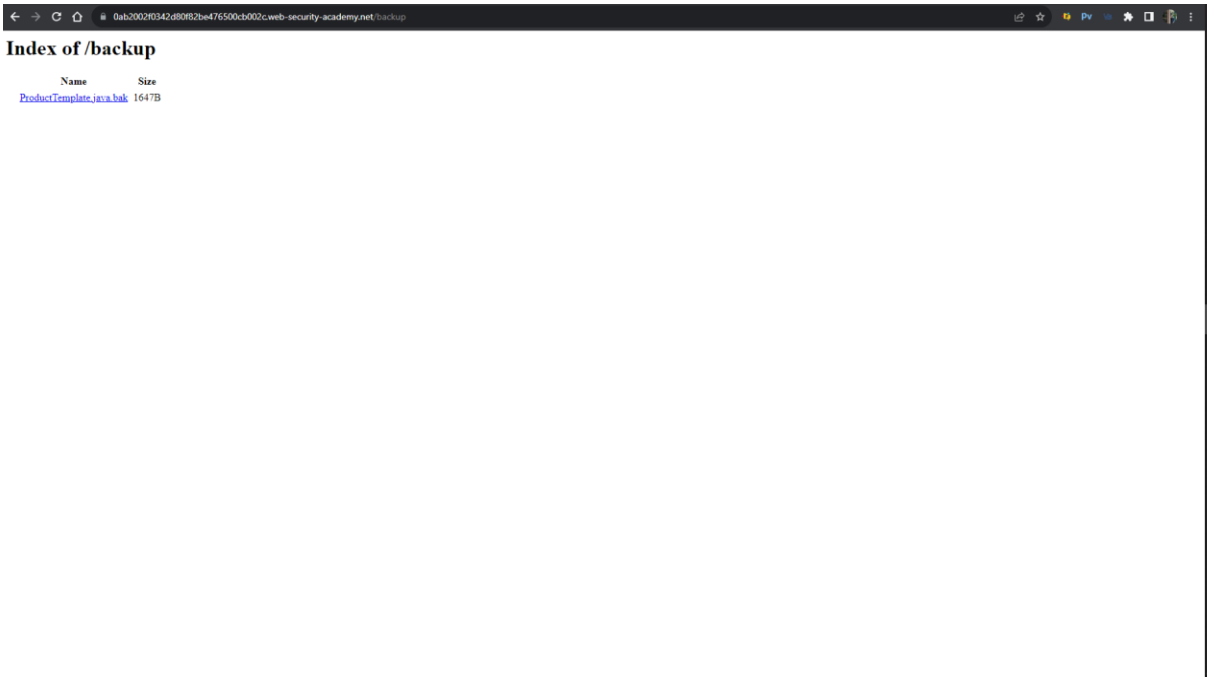
Sarcastic 9 Ball $88.84
Dancing In The Dark $3.98
3D Voice Assistants $39.45
Hydrated Crackers $99.11
Cheshire Cat Grin $65.81
What Do You Meme? $22.15
The Alternative Christmas Tree $41.08
All-in-One Typewriter $18.02

Add /robots.txt


0ab2002f0342d80f82be476500cb002c.web-security-academy.net/robots.txt

```
User-agent: *
Disallow: /backup
```

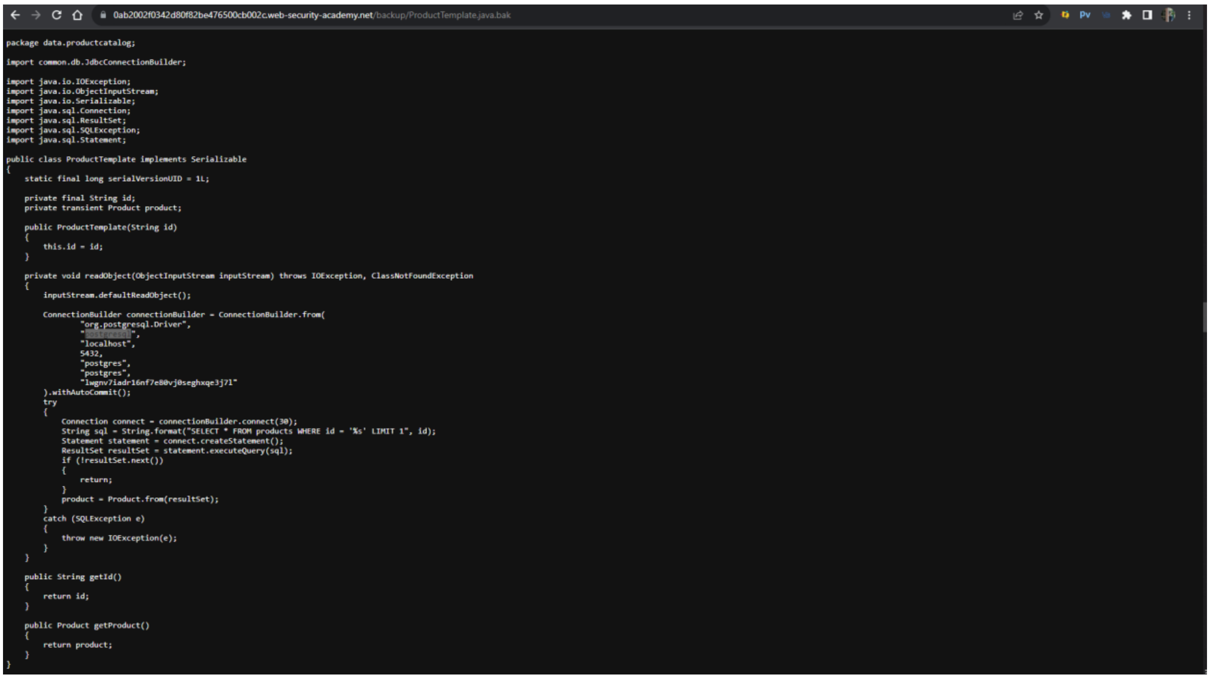
Add /backup in the url


0ab2002f0342d80f82be476500cb002c.web-security-academy.net/backup

Index of /backup

Name	Size
ProductTemplate.java.bak	1647B

We add ProductTemplate.java.bak in url


0ab2002f0342d80f82be476500cb002c.web-security-academy.net/backup/ProductTemplate.java.bak

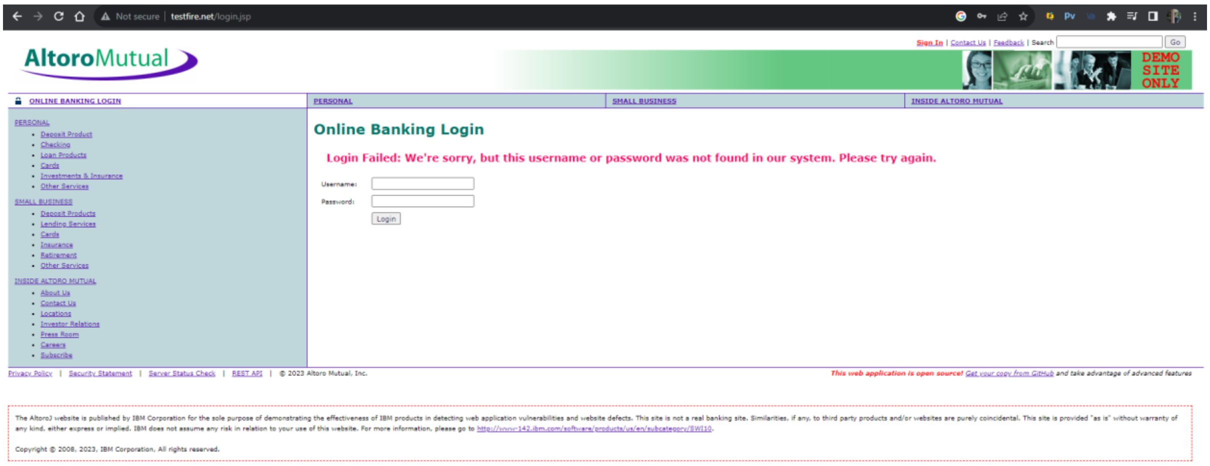
```
package data.productcatalog;

import common.db.JdbcConnectionBuilder;

import java.io.IOException;
import java.io.ObjectInputStream;
import java.io.Serializable;
import java.sql.Connection;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;

public class ProductTemplate implements Serializable
{
    static final long serialVersionUID = 1L;

    private final String id;
    private transient Product product;

    public ProductTemplate(String id)
    {
        this.id = id;
    }

    private void readObject(ObjectInputStream inputStream) throws IOException, ClassNotFoundException
    {
        inputStream.defaultReadObject();

        ConnectionBuilder connectionBuilder = ConnectionBuilder.from(
                "org.postgresql.Driver",
                "postgresql",
                "localhost",
                5432,
                "postgres",
                "postgres",
                "lwgnv7iadr16nf7e80vj0seghxqe3j7l"
        ).withAutoCommit();
        try
        {
            Connection connect = connectionBuilder.connect(30);
            String sql = String.format("SELECT * FROM products WHERE id = '%s' LIMIT 1", id);
            Statement statement = connect.createStatement();
            ResultSet resultSet = statement.executeQuery(sql);
            if (!resultSet.next())
            {
                return;
            }
            product = Product.from(resultSet);
        }
        catch (SQLException e)
        {
            throw new IOException(e);
        }
    }

    public String getId()
    {
        return id;
    }

    public Product getProduct()
    {
        return product;
    }
}
```

Hence the site is vulnerable to cryptographic failures

INJECTION FAILURES

VISIT WEBSITE

ADD ADMIN AND PASSWORD



Online Banking Login

Login Failed: We're sorry, but this username or password was not found in our system. Please try again.

Username:

Password:

This web application is open source! Get your copy from GitHub and take advantage of advanced features

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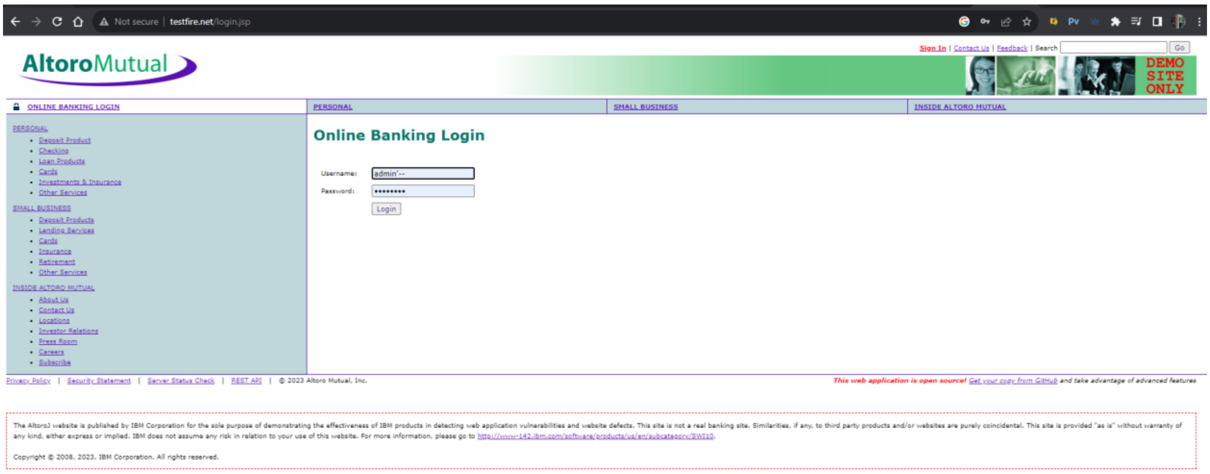

Not secure | testfire.net/login.jsp

AltoroMutual

Sign In | Contact Us | Feedback | Search [ ] Go

DEMO SITE ONLY

ONLINE BANKING LOGIN | PERSONAL | SMALL BUSINESS | INSIDE ALTORO MUTUAL

PERSONAL
- Deposit Product
- Checking
- Loan Products
- Cards
- Investments & Insurance
- Other Services

SMALL BUSINESS
- Deposit Products
- Lending Services
- Cards
- Insurance
- Retirement
- Other Services

INSIDE ALTORO MUTUAL
- About Us
- Contact Us
- Locations
- Investor Relations
- Press Room
- Careers
- Subscribe

Online Banking Login

Username: admin'--

Password: ••••••••

Login

Privacy Policy | Security Statement | Server Status Check | REST API | © 2023 Altoro Mutual, Inc.

This web application is open source! Get your copy from GitHub and take advantage of advanced features

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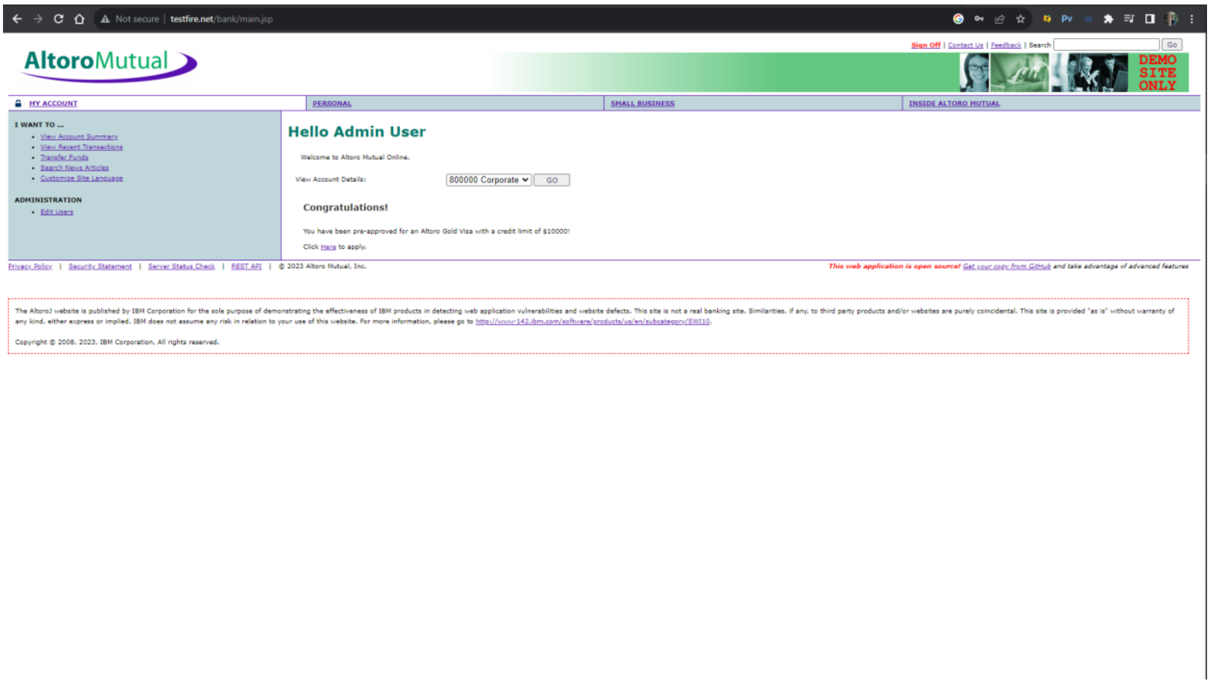

Not secure | testfire.net/bank/main.jsp

AltoroMutual

Sign Off | Contact Us | Feedback | Search [ ] Go

DEMO SITE ONLY

MY ACCOUNT | PERSONAL | SMALL BUSINESS | INSIDE ALTORO MUTUAL

I WANT TO ...
- View Account Summary
- View Recent Transactions
- Transfer Funds
- Search News Articles
- Customize Site Language

ADMINISTRATION
- Edit Users

Hello Admin User

Welcome to Altoro Mutual Online.

View Account Details: 800000 Corporate GO

Congratulations!

You have been pre-approved for an Altoro Gold Visa with a credit limit of $10000!

Click Here to apply.

Privacy Policy | Security Statement | Server Status Check | REST API | © 2023 Altoro Mutual, Inc.

This web application is open source! Get your copy from GitHub and take advantage of advanced features

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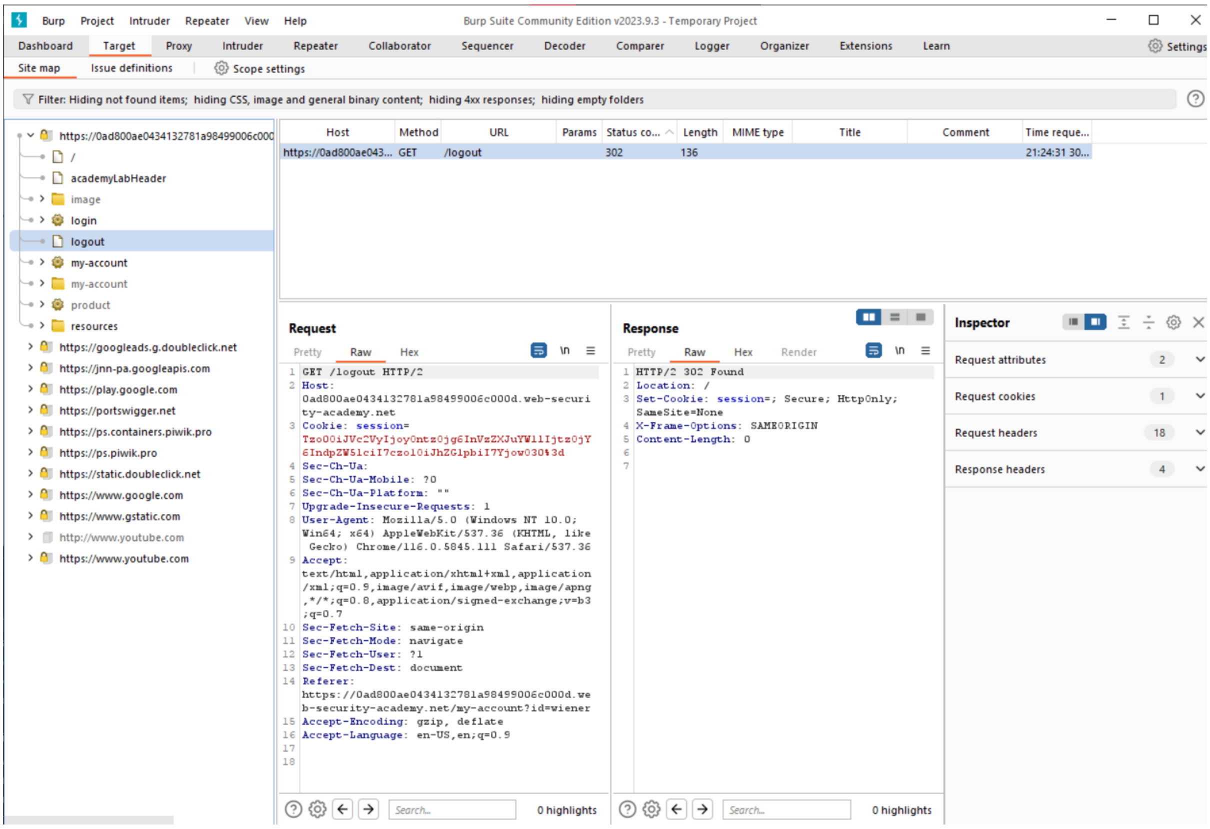
Hence this website has SQL injection Vulnerabilities

INSECURE DESIGN

Access the website

Open burp suite access cookie layer



Filter: Hiding not found items; hiding CSS, image and general binary content; hiding 4xx responses; hiding empty folders

- https://0ad800ae0434132781a98499006c000
  - /
  - academyLabHeader
  - image
  - login
  - logout
  - my-account
  - my-account
  - product
  - resources
- https://googleads.g.doubleclick.net
- https://jnn-pa.googleapis.com
- https://play.google.com
- https://portswigger.net
- https://ps.containers.piwik.pro
- https://ps.piwik.pro
- https://static.doubleclick.net
- https://www.google.com
- https://www.gstatic.com
- http://www.youtube.com
- https://www.youtube.com

Host	Method	URL	Params	Status co...	Length	MIME type	Title	Comment	Time reque...
https://0ad800ae043...	GET	/logout		302	136				21:24:31 30...

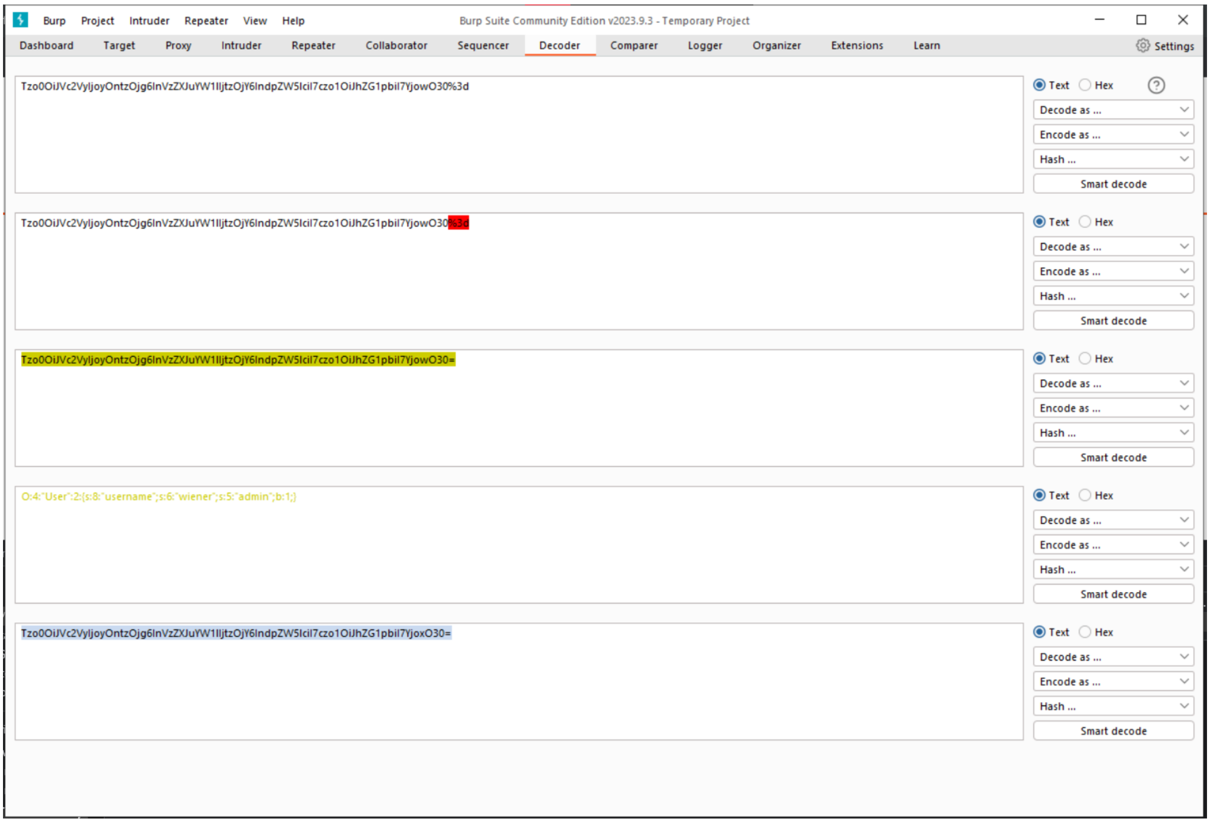
Request

```
GET /logout HTTP/2
Host:
0ad800ae0434132781a98499006c000d.web-securi
ty-academy.net
Cookie: session=
Tzo0OiJVc2VyIjoyOntzOjg6InVzZXJuYW1lIjtzOjY
6IndpZW5lciI7czo1OiJhZG1pbiI7Yjow030%3d
Sec-Ch-Ua:
Sec-Ch-Ua-Mobile: ?0
Sec-Ch-Ua-Platform: ""
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0;
Win64; x64) AppleWebKit/537.36 (KHTML, like
 Gecko) Chrome/116.0.5845.111 Safari/537.36
Accept:
text/html,application/xhtml+xml,application
/xml;q=0.9,image/avif,image/webp,image/apng
,*/*;q=0.8,application/signed-exchange;v=b3
;q=0.7
Sec-Fetch-Site: same-origin
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Referer:
https://0ad800ae0434132781a98499006c000d.we
b-security-academy.net/my-account?id=wiener
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9
```

Response

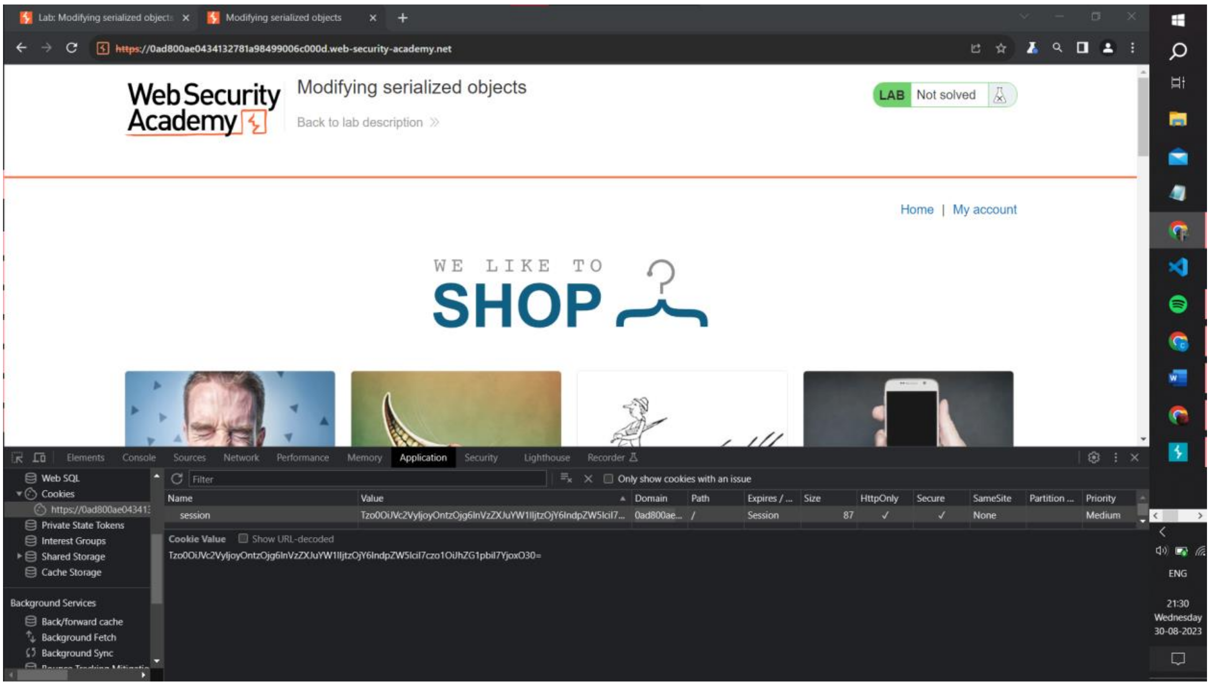
```
HTTP/2 302 Found
Location: /
Set-Cookie: session=; Secure; HttpOnly;
SameSite=None
X-Frame-Options: SAMEORIGIN
Content-Length: 0
```

Go to decoder change b=1 to access the admin portal



```
Tzo0OiJVc2VyIjoyOntzOjg6InVzZXJuYW1lIjtzOjY6IndpZW5lciI7czo1OiJhZG1pbiI7YjowO30%3d

Tzo0OiJVc2VyIjoyOntzOjg6InVzZXJuYW1lIjtzOjY6IndpZW5lciI7czo1OiJhZG1pbiI7YjowO30%3d

Tzo0OiJVc2VyIjoyOntzOjg6InVzZXJuYW1lIjtzOjY6IndpZW5lciI7czo1OiJhZG1pbiI7YjowO30=

O:4:"User":2:{s:8:"username";s:6:"wiener";s:5:"admin";b:1;}

Tzo0OiJVc2VyIjoyOntzOjg6InVzZXJuYW1lIjtzOjY6IndpZW5lciI7czo1OiJhZG1pbiI7YjoxO30=
```

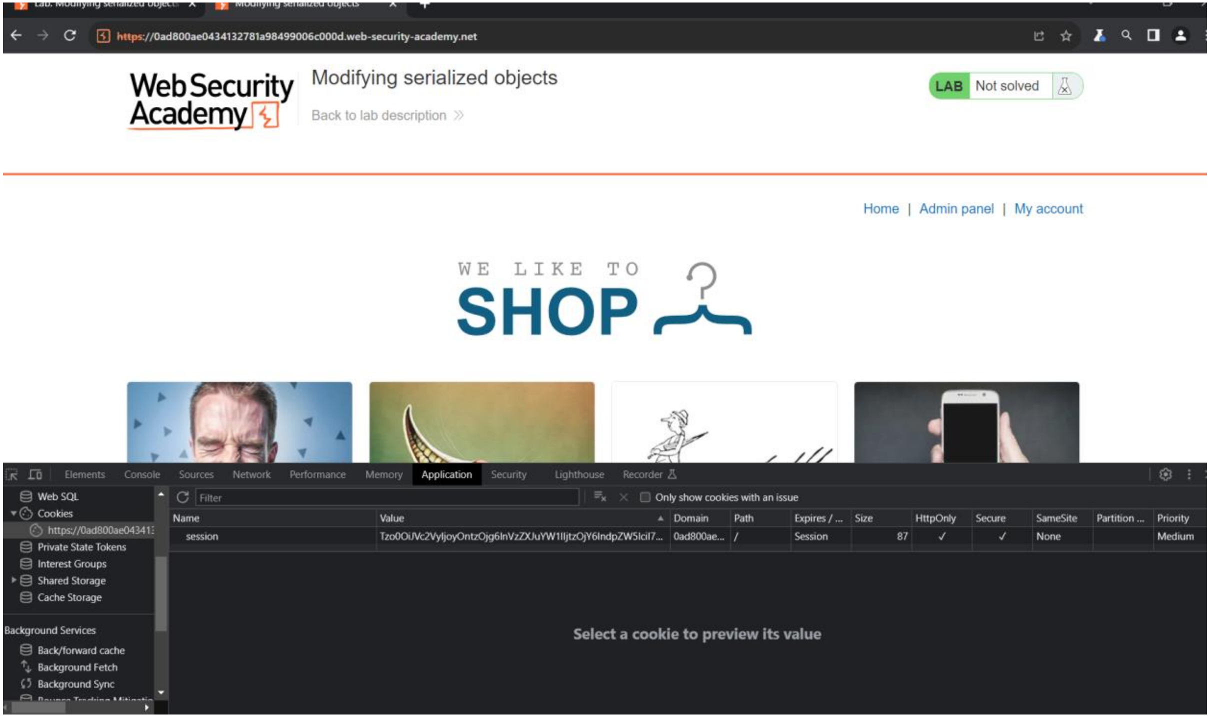
Change value in cookie layer of website



Name	Value	Domain	Path	Expires / ...	Size	HttpOnly	Secure	SameSite	Partition ...	Priority
session	Tzo0OiJVc2VyIjoyOntzOjg6InVzZXJuYW1lIjtzOjY6IndpZW5lciI7...	0ad800ae...	/	Session	87	✓	✓	None		Medium

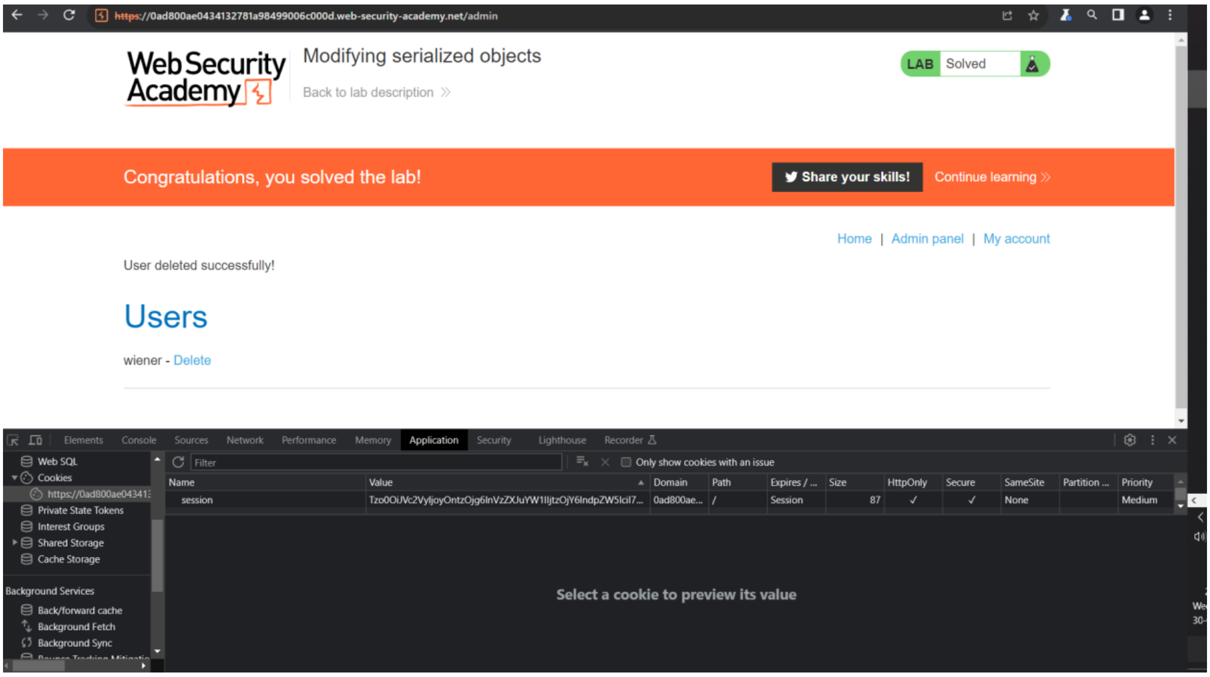
Cookie Value □ Show URL-decoded

Tzo0OiJVc2VyIjoyOntzOjg6InVzZXJuYW1lIjtzOjY6IndpZW5lciI7czo1OiJhZG1pbiI7YjoxO30=



Name	Value	Domain	Path	Expires / ...	Size	HttpOnly	Secure	SameSite	Partition ...	Priority
session	Tzo0OiJVc2VyIjoyOntzOjg6InVzZXJuYW1lIjtzOjY6IndpZW5lciI7...	0ad800ae...	/	Session	87	✓	✓	None		Medium

Select a cookie to preview its value



https://0ad800ae0434132781a98499006c000d.web-security-academy.net/admin

Modifying serialized objects

Back to lab description »

LAB Solved

Congratulations, you solved the lab!

Share your skills! Continue learning »

Home | Admin panel | My account

User deleted successfully!

Users

wiener - Delete

Select a cookie to preview its value

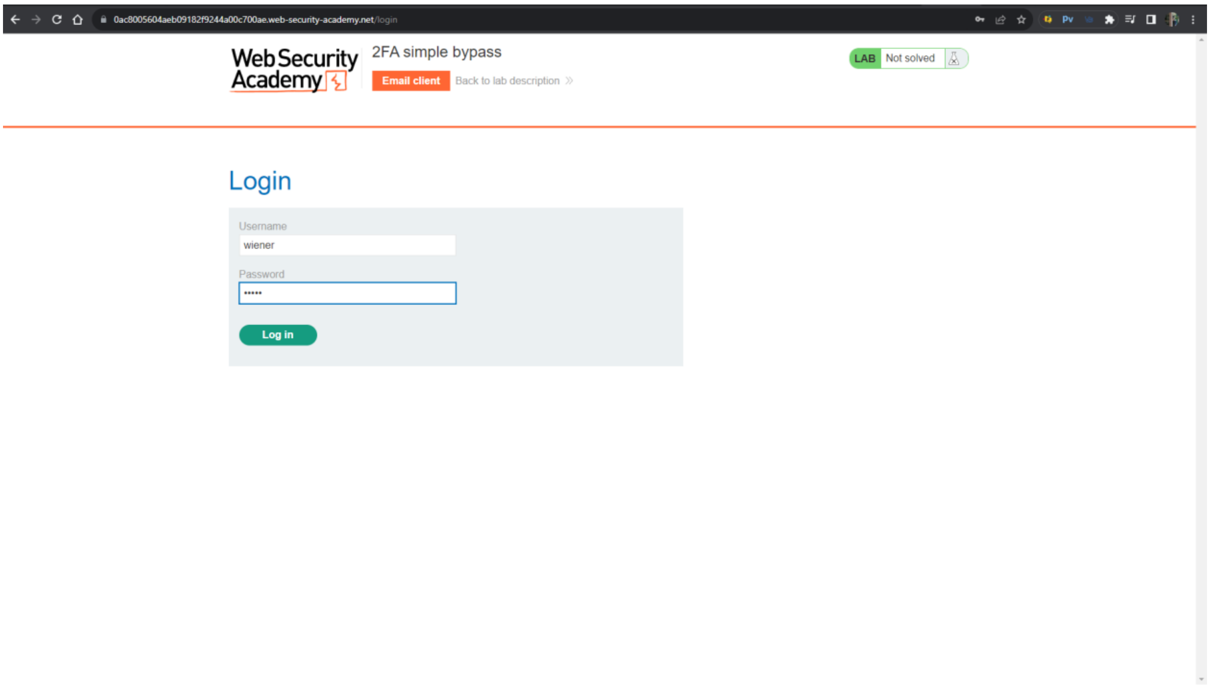
Name	Value	Domain	Path	Expires / ...	Size	HttpOnly	Secure	SameSite	Partition ...	Priority
session	Tzo0OiJVc2VyIjoyOntzOjg6InVzZXJuYW1lIjtzOjY6IndpZW5lciI7...	0ad800ae...	/	Session	87	✓	✓	None		Medium

Delete user

hence website is vulnerable to insecure design

SECURITY MISCONFIG

ACCESS THE WEBSITE AND LOGIN



0ac8005604aeb09182f9244a00c700ae.web-security-academy.net/login

2FA simple bypass

Email client Back to lab description »

LAB Not solved

Login

Username

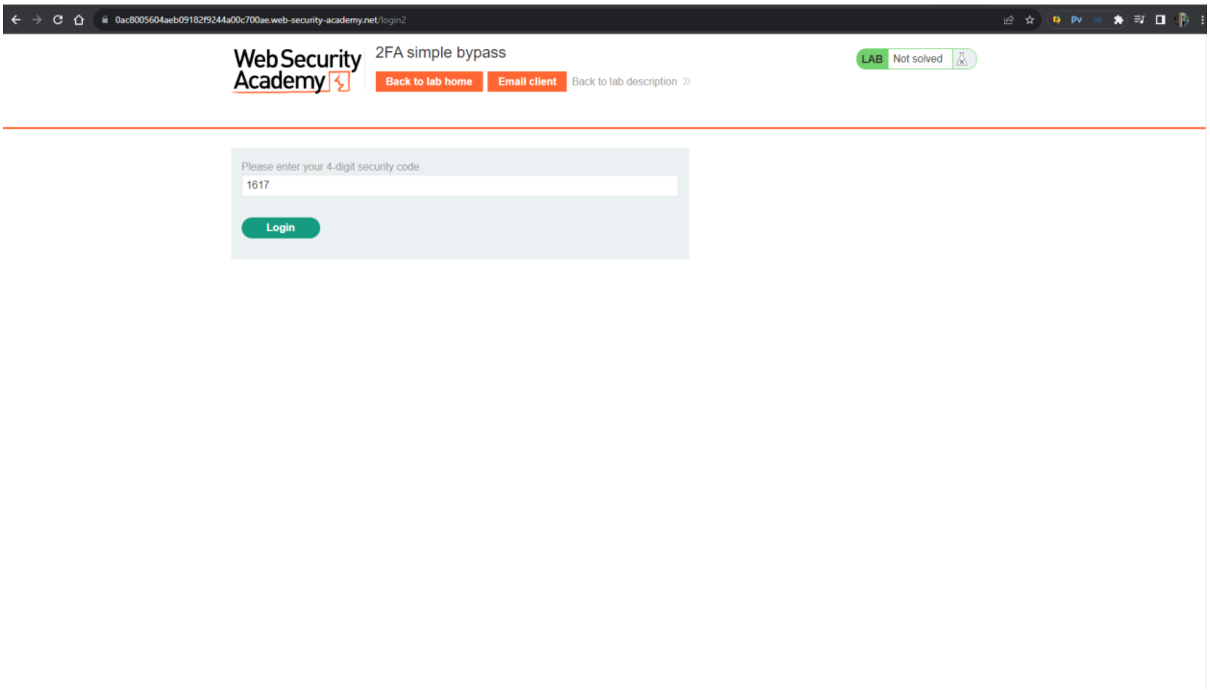
wiener

Password

•••••

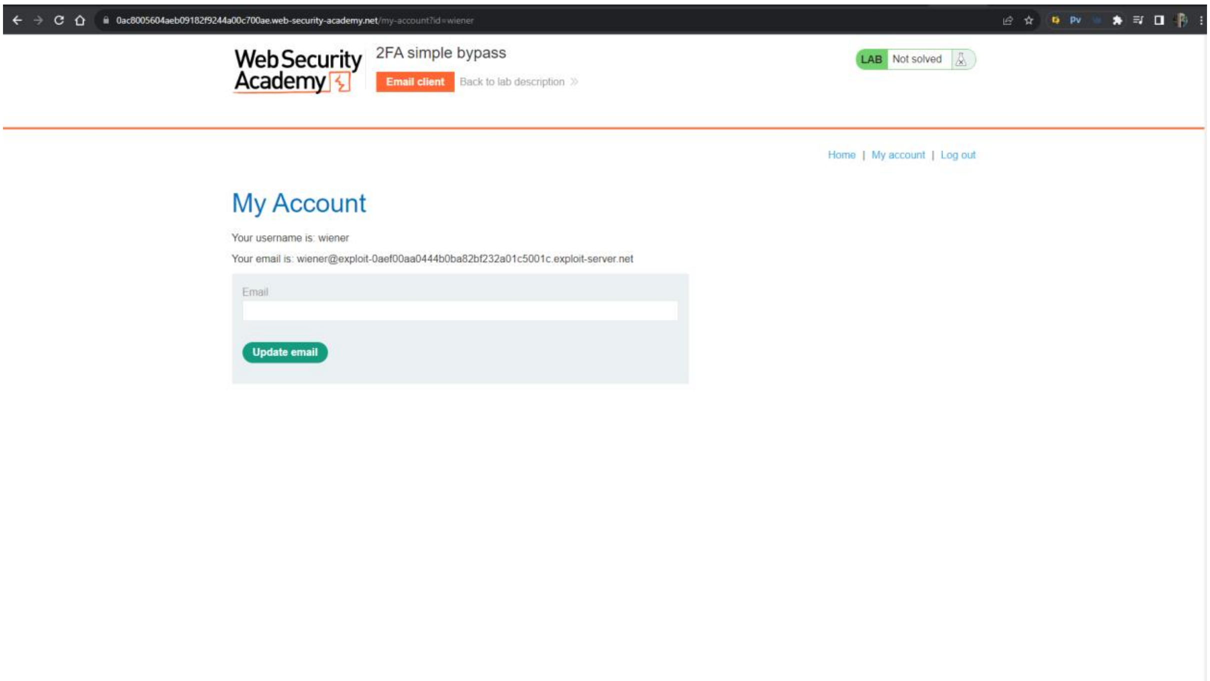
Log in

ENTER OTP



0ac8005604aeb09182f9244a00c700ae.web-security-academy.net/login2

Please enter your 4-digit security code: 1617



0ac8005604aeb09182f9244a00c700ae.web-security-academy.net/my-account?id=wiener

My Account

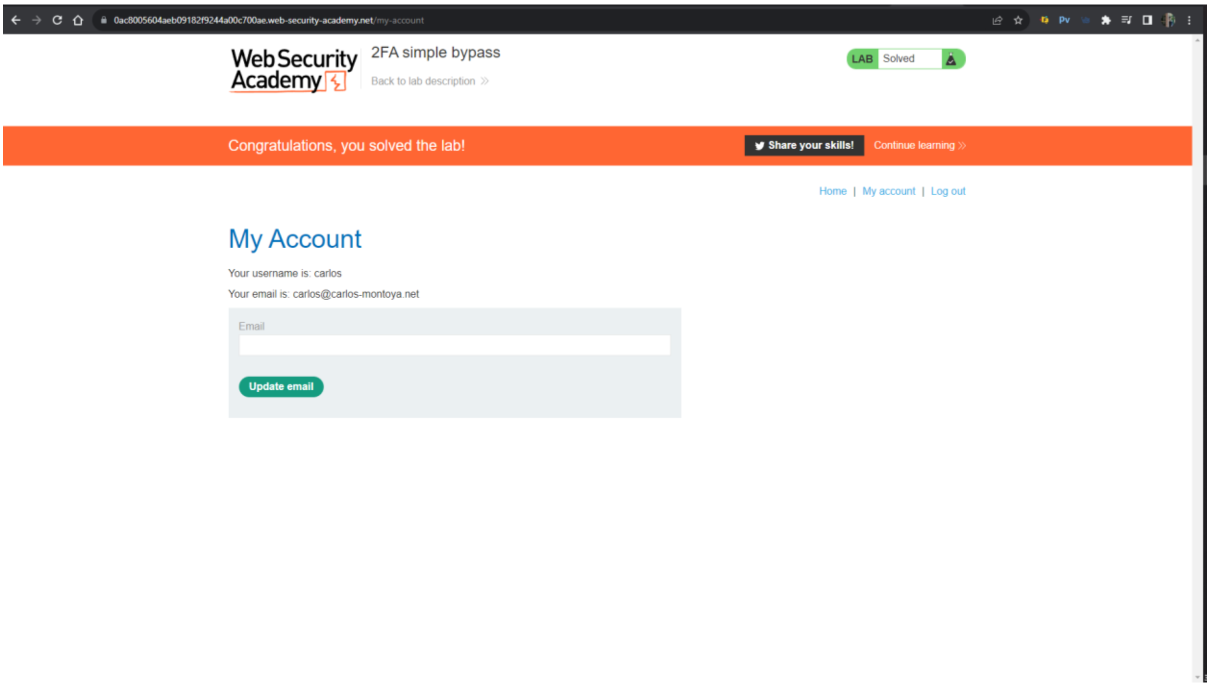
Your username is: wiener

Your email is: wiener@exploit-0aef00aa0444b0ba82bf232a01c5001c.exploit-server.net

Email:

Now we login into victims credentials

When askes for otp simply change the url to already loggen in account


0ac8005604aeb09182f9244a00c700ae.web-security-academy.net/my-account
WebSecurity Academy
2FA simple bypass
Back to lab description »
LAB Solved
Congratulations, you solved the lab!
Share your skills!
Continue learning »
Home | My account | Log out

My Account

Your username is: carlos

Your email is: carlos@carlos-montoya.net

Therefore this website has Security misconfiguration vulnerability