

# Ethical Hacking Internship Project 3

**Title = SQL injection**

**Domain = <http://www.vulnweb.com>**

**Sub domain = <http://testasp.vulnweb.com>**

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## Steps to produce:

### 1. Attack

Visit the domain: <http://testasp.vulnweb.com>

Go to login option

Insert the SQL Injection : 0'or'1'='1 , in both the username and password

We got successfully bypass the login

The screenshot shows a Microsoft Edge browser window. The address bar indicates the URL is <http://testasp.vulnweb.com/Login.aspx?RefURL=%2FDefault%2Easpx%3F>. The page title is "TEST and Demonstration site for Acunetix Web Vulnerability Scanner". The main content area shows a login form with two fields: "Username" containing "0'or'1'='1" and "Password" containing "password". Below the form is a warning message: "Warning: This forum is deliberately vulnerable to SQL Injections, directory traversal, and other web-based attacks. It's built using ASP and it is here to help you test Acunetix. The entire content of the forum is erased daily. All the posts are real-life examples of how attackers are trying to break into insecure web applications. Please be careful and do not follow links that are posted by malicious parties." At the bottom of the page, there is a footer with a weather icon showing 87°F Haze and a standard Windows taskbar.

The screenshot shows a Microsoft Edge browser window. The address bar indicates the URL is <http://testasp.vulnweb.com/Default.aspx?>. The page title is "TEST and Demonstration site for Acunetix Web Vulnerability Scanner". The main content area shows a forum listing with a single post. The post details are: Title "Acunetix Web Vulnerability Scanner", Author "Talk about Acunetix Web Vulnerability Scanner", Threads: 39, Posts: 39, Last Post: 10/4/2023 9:46:51 AM. Below the forum listing is a weather widget showing 87°F Haze and a standard Windows taskbar at the bottom.

## 2. Reflected XSS

Visit the domain: <http://testasp.vulnweb.com>

Go to search option

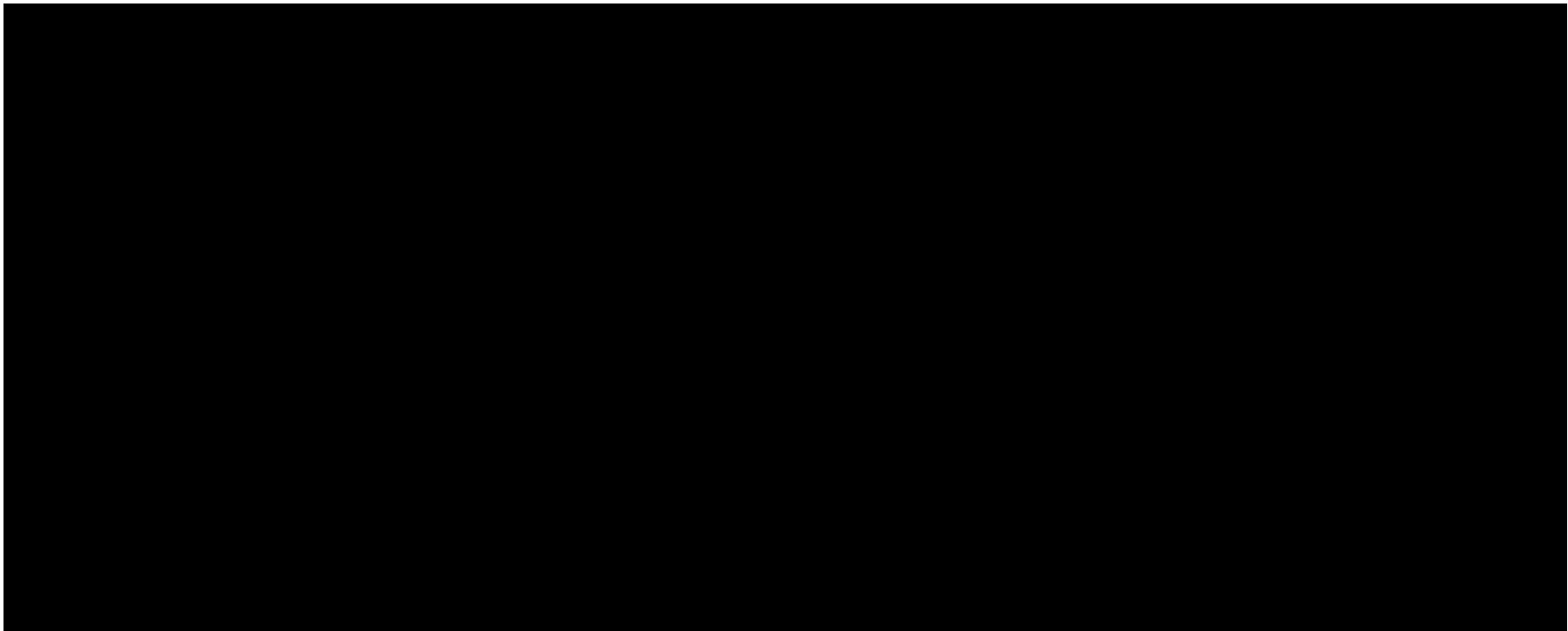
Type payload in the search `<script>alert("You are hacked")</script>`

Attacked Successfully

The screenshot shows a Microsoft Edge browser window with the address bar containing `<script>alert("You are hacked")</script>`. The page title is "acuforum" and the subtext is "TEST and Demonstration site for Acunetix Web Vulnerability Scanner". The navigation bar includes links for "about", "forums", "search", "logout 0'or'1='1", "SQL scanner", and "SQL vuln help". Below the navigation bar, there is a search bar with the placeholder "search posts" and a message "You searched for ''". A warning banner at the bottom states: "Warning: This forum is deliberately vulnerable to SQL Injections, directory traversal, and other web-based attacks. It is built using ASP and it is here to help you test Acunetix. The entire content of the forum is erased daily. All the posts are real-life examples of how attackers are trying to break into insecure web applications. Please be careful and do not follow links that are posted by malicious parties." The status bar at the bottom shows system information including the date (10/3/2023) and time (3:35 PM).

The screenshot shows the same browser window after the payload was submitted. The address bar now displays the result of the reflected XSS: `testasp.vulnweb.com/Search.aspx?tfSearch=<script>alert("You are hacked")</script>`. The page title and subtext remain the same. The search bar now contains the reflected payload: "`<script>alert("You are hacked")</script>`". The message "You searched for ''" is still present. The warning banner at the bottom is identical to the one in the first screenshot. The status bar at the bottom shows system information including the date (10/3/2023) and time (3:34 PM).

## **SQL and XSS attack :-**



## Impacts of Simple SQL injection and XSS Attack :

- **Confidentiality:** Since SQL databases generally hold sensitive data, loss of confidentiality is a frequent problem with SQL Injection vulnerabilities.
- **Authentication:** If poor SQL commands are used to check user names and passwords, it may be possible to connect to a system as another user with no previous knowledge of the password.
- **Authorisation:** If authorisation information is held in a SQL database, it may be possible to change this information through the successful exploitation of a SQL Injection vulnerability.
- **Integrity:** Just as it may be possible to read sensitive information, it is also possible to make changes or even delete this information with a SQL Injection attack.

## How we can protect against such attack

- Validate user input for expected data types, including input fields like drop-down menus or radio buttons, not just fields that allow users to type.
- Ensure all web application software components including libraries, plug-ins, frameworks, web server software, and database server software are kept up to date with the latest security patches