

In-course Assessment 3

IT3122 Computer Security

Deadline: 2025.11.21 23:59

Group Size: 3–4 members

Task:

You are required to demonstrate the following **three vulnerabilities** and then implement **solutions** to fix them. All server-side code must be in PHP.

1. SQL Injection
 - Use [PHP Data Objects \(PDO\)](#) to access MySQL database and [Prepared Statements](#) to implement the solution.
2. Cross-site Scripting (XSS)
 - Demonstrate all three types of XSS vulnerabilities: Stored XSS, Reflected XSS, and DOM-based XSS.
 - Use [htmlentities](#) function to implement the solution.
3. Cross-site Request Forgery (CSRF)
 - Use **Synchronizer Token Pattern** *or* a **Double-Submit Cookie Pattern** to implement the solution.

You are required to upload the following to the submission link in the VLE.

1. The code (ZIP) *or* a link to a Git repository containing the code.
2. A detailed report (PDF) explaining all three vulnerabilities and the solutions (including screenshots).