**Security Audit and Code Hardening Report**

**Project:** Java Authentication and Session Management System

Student name: Eskandar Atrakchi

Student Number: x23137517

Date: 20th/Oct/2025

Type of document: Report

PART A – Security audit

From the original code AuthSystem.java I have identified several vulnerabilities which they consider a threat to confidentiality and integrity I have made a table to summarized what I have classified from the original code

|  |  |  |
| --- | --- | --- |
| **Vulnerability** | **Description** | **Security Principle Violated** |
| 1. Plaintext password storage | Use password were stored as a string in memory, providing no protection incase the data is exposed | Confidentiality |
| 1. User enumeration via early return |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

PART B – remediation and security enhancements

Each vulnerability was enhanced and remediated following secure coding principles