Secure Programming Laboratory 2: Injection

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Orientation

This is the second Laboratory Session for **Secure Programming**

It is convened by Rob and David.

The **handout** and other resources are available online via the lab web page.

What is this lab about?

Basic SQL Injection

- **Task 1** Revisiting SQL Statements
- **Task 2 ~ 3** SQL Injection Attack (in PHP)
- **Task 4** Countermeasure for SQL Injection

What do we hope you will learn?

- Reminder of SQL and what it does
- Understanding SQL injection and countermeasures

Warning

- You will be **attacking** the web server on the URL **http://www.seed-server.com**.
- The `hosts` file in the SEED Lab VM will be set to resolves the `www.seed-server.com` domain.
- Outside the VM, **this domain points to a machine on the Internet!** So do not launch your attack outside the VM.

ALWAYS KEEP YOUR ATTACKS WITHIN THE SEED LAB ENVIRONMENT

Docker

This SEED Lab uses Docker to containerise the vulnerable web application and its database.

This gives an easy to teardown and re-install the applications.

But you need to be *careful if you want to keep your work* (e.g., modified code or database), as you will need to copy files in two stages

```
Docker -> VM -> Host
```

You may also be able to run the lab directly on your own laptop using Docker without the VM. However, this may need additional setup/variation (e.g., you will need to use an IP address like `10.9.0.5` rather than `www.seed-server.com`)

Solutions and Checkpoints

You do not need to submit a lab report to us, but please keep answers to the **checkpoint questions** for your own use, to check your understanding and when revising the material for the lab.

Please **do not post solutions** on any forum. If solutions are distributed it will spoil the experience for other students using SEED labs around the world.

During the lab we will provide individual help and guidance, and also make announcements during the lab with hints and tips.

You can always discuss the checkpoint question or any materials with us during the lab section or through Piazza.

Good Luck!

We hope you enjoy the lab.