Software Architecture Documentation

Assignment #2
Non-persistent Cross-Site Scripting

Course	Computer Communication
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1. Introduction and Background

Chapter 11 (The World Wide Web), Listing 11-2 [1] shows an example bank application that uses the Flask framework. This insecure payment application is prone to various scripting attacks, including the non-persistent cross-site scripting attack, where an attacker can build a URL whose query parameter includes a JavaScript [2] that makes automatic payment.

2. Logical View and Process View

- The example is an implementation of a code to generate a URL that can also display a custom message on the green box (indicated by flash) of the index page upon successful payment process
(as discussed on our lecture note p67).

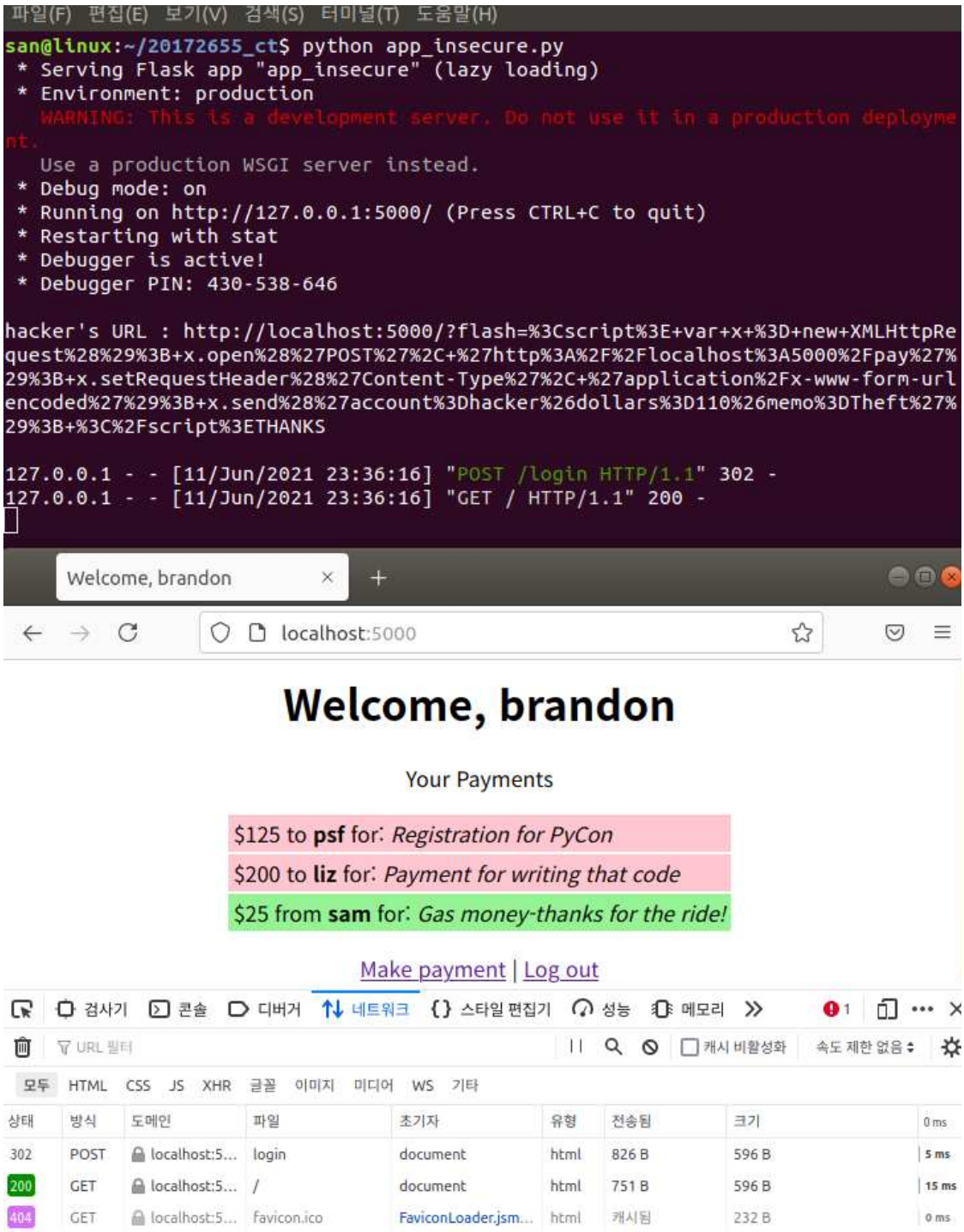
Specification:
1. Input:
- Attacker (named hacker) generates a URL (called attacker-generated URL) using Python code that opens a script file and then prints a URL that can be used to launch such an attack. Your code should look something like the one shown on p. 66 of our lecture note.

2. Method:
- Login as brandon (a target user).
- brandon visits the attacker-generated URL.
- brandon is redirected to the index.html that displays a custom message chosen by the attacker (e.g., Thanks, brandon) to become less suspicious.

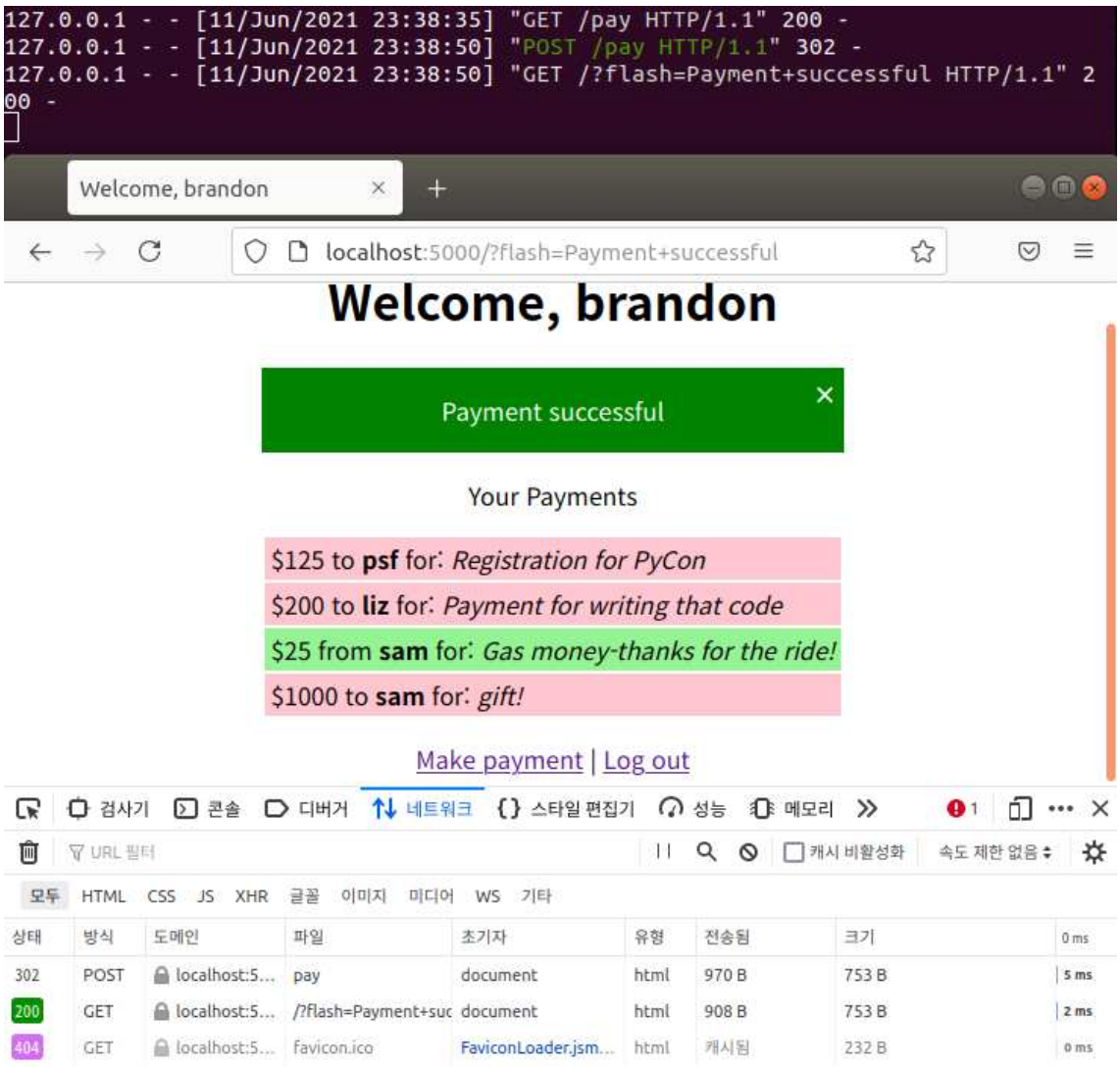
3. Output:
- Verify that brandon has unwillingly made payments to the hacker.

3. Test Cases

- Start : if success to log-in, print attacker's URL on terminal so that Brandon could visit the attacker-generated URL.



- Case 1 : Make payment without attacker's URL
  -> It works normally



- Case 2 : Make payment by visiting attacker's URL
  -> Brandon has unwillingly made payments to the hacker.
  -> The message of the green box displays a custom message chosen by the attacker.