Abstract

Due to recent increases in internet’s popularity, many enterprises decided to move their services to a web-based systems. These systems often hold very important aspects in the company’s core business, such as web-based banking system and online shop. The characteristic of a web application which can be accessed anytime, anywhere and by everybody, may cause certain challenges in system’s security.

One of the most common security attack for web application is SQL injection. SQL injection is an attack which can be used for acquiring access to application’s database through injection of script or malicious query attributes. An SQL injection attack can occur in any page of web application which interact with database.

SQL injection attacks can be disastrous if the victim is an enterprise system such as online banking and shop. An attacker which manage to gain acces to database through SQL injection attack may alter system’s database. Imagine if an attacker messed up with online bank’s transaction record, the result would most certainly not be good to the bank.

Many methods have been researched and developed to prevent SQL injection attacks. One method that can be used is through the use of a honeypot. Honeypot is an electronic decoy which appears to be a normal system, but it actually is waiting to
be attacked. A simple honeypot may take the form of a normal application with vulnerabilities which was modified with special methods of surveillance and logging. The purpose of honeypot deployment is to be able to study the attack methods which were used by the attacker. Attack log’s details may also be used for computer forensic such as tracing attacker’s identity.

This theses proposed a method for increasing system’s capability to detect and prevent SQL injection attacks based on removal of SQL query attribute values and the use of a honeypot. A honeypot is placed as decoy system to hide actual web server from attacker. Mallicious queries executed by users will be sent to honeypot instead of web server while normal queries will be sent directly to web server. Honeypot is also used to provide activity logging of each attack which can be used for further analysis.

Keywords: SQL Query, SQL Injection, Honeypot