

Abstract

At this time, mashups are a phenomenon because of the innovations of RESTful Web services and AJAX (Asynchronous JavaScript API and XML). A Web service is a software system designed to support interoperable machine-to-machine interaction over a network. Based on W3C, REST is one of web service architecture. The main purpose of REST is manipulating resource representation from Web to XML. REST use HTTP as protocol, so REST does not need additional layer to implement web service like SOAP or XML-RPC based web service. REST has one disadvantage. REST is lack of standard support for the security. It is possible for REST send querystring parameter via HTTP GET. Because of it, REST has SQL Injection vulnerability.

In this paper will develop a REST web service framework which have methods like regular expression, escape character, and prepare statement to minimize SQL Injection attack. Testing will have two stage. In first stage, client will send SQL Injection queries to get how many query will be pass to the database. In second stage, client will enumerate to get sensitive information from database server. Testing result will create data which contains server time execution and memory usage.

Based on research, the result is escape character method is the best method to defend against SQL Injection attack based on server time execution and memory usage.

Keywords: SQL Injection, Web Service, REST, Framework.