**10.3 An toàn truy vấn cơ sở dữ liệu**

**10.3.1 Truy cập dữ liệu an toàn**

Databases(Cơ sở dữ liệu) là nơi lưu trữ thông tin quan trọng. Trong ứng dụng web, không thường xuyên sử dụng Databases cho việc lưu trữ các ứng dụng. Databases

Databases are storage repertories for a variety of information elements. These include user information, transaction information, master information (in the case of accounting and inventory masters), and a smorgasbord of different types of information queried by the application during the CRUD operations of the Web applica-tion—create, read, update, and delete.

Attackers have been successful at exploiting the way applications query the databases for infor-mation. Attackers are able to identify vulnerable implementations where the application’s SQL queries are vulnerable to injection attacks and consequently are able to get access to the contents of the database. This attack is popularly known as an SQL injection attack.

SQL injection is an attack where an attacker inserts certain crafted SQL queries into the application that allow the attacker to gain access to the information contained in the database. In certain cases, SQL injection also successfully allows the attacker to gain access to certain restricted areas of the application. Attackers can also delete or insert information into database tables, thereby gaining access to key data elements and, in some cases, gain control over the entire database itself.

SQL injection attacks happen because of the following reasons: