

- c. Must be attached only to programs in the interface tier
 - d. All of the above
5. Which of these describes SQL injection?
- a. The process of using an SQL statement to update a database
 - b. The process of inserting variables in a SQL statement for flexibility
 - c. Causes data to be corrupted
 - d. All of these

True/False

1. MD5 is the most up-to-date and secure encryption technique.
2. `password_hash` should be used to create an encrypted password.
3. Users should be notified that they have exceeded the maximum number of attempts to enter a correct user ID and password.
4. An authentication system does not need to timeout passwords and force its users to change their passwords when they time out.
5. `preg_replace` can be used with an encrypted password to ensure that PHP does not interpret special characters as PHP commands.

Short Answer/Essay

1. Explain the techniques that can be used to reduce the chances that a password sniffing program can discover the correct user ID and password combination.
2. Explain how sessions work. Include an explanation on how they can help secure an application with user ID and password authentication.
3. What is SQL injection? How can it be avoided?
4. Why should passwords be encrypted? Explore the Internet and discover the latest versions of encryption. Does the most current version of PHP use the newest version of encryption?

Projects

1. Download log maintenance files from Chapter 6 or use your own maintenance files that you created from Chapter 6. Use the techniques shown in this chapter to secure these files with user ID and password authentication.
2. Download the files from this chapter. Update the files and programs so users can request their passwords. A temporary password (new field in the XML file) must randomly be created (use `rand`) and e-mailed to the users. The password should have a quick expiration (one day or less). The user must be able to verify other information entered via the registration page (security question, or other personal info) to request the password. If the user signs in correctly with the temporary password, the system should make the user change the password.

Term Project

1. Update the ABC Computer Parts Inventory application to include user ID and password authentication as shown in this chapter. Be sure to secure any log maintenance programs related to the application.