

Final Exam

1. Answer these questions with True/False:
 - (a) ____ ASLR defends against the CSRF attack.
 - (b) ____ a valid SSL certificate mean that the sever is not malicious.
 - (c) ____ least privilege mean that maximum possible permission should be assigned to a process/user.
 - (d) ____ DEP/NX defenses do not prevent return-oriented-programming (ROP) attacks.
2. What are HSTS Super Cookies? Explain them in detail and how they operate.
3. Assume Javascript is disabled in your browser, how would that effect each of the following attacks:
 - Cross-site request forgery (CSRF)
 - SQL injection
 - Cross-site scripting (XSS)
 - Phishing
4. Read on the Solar Wind hack and answer the following questions:
 - Provide a summary of the attack in detail and its importance.
 - Which companies/organizations were effected by the attack?
 - Which element(s) of security (i.e. confidentiality, integrity, availability) were violated?
 - What is the main vulnerability which enabled the attack? discuss in detail.
 - Why the implemented security mechanism were unsuccessful in stopping the attack?
 - What defense mechanism(s) would you suggest to defend against such attacks in the future?
5. Explain the Log4j Vulnerability in as much detail as possible in 100 words only. You will loose points on this question for every extra word used. (i.e. if your response is 101 words, then you will loose 5% of the grade on this question, 102 words and 10%, and so on.) Your grade will be based on how much useful and understandable detail you include in your response. As a reference on word count, the text of this question consists of 84 words.

آسیب‌پذیری log4j را با جزییات هر چه بیشتر و فقط در ۱۰۰ کلمه توضیح دهید. این دو جمله فارسی مجموعاً ۲۵ کلمه می‌باشند.