HSB

Dozent:in / Lecturer

Prof. Dr. Philipp Last
philipp.last@hs-bremen.de

Organisatorisches / Organisation

- Umfang: 5 SWS / 6 ECTS
- Termin: gemäß Stundenplan
- TN-Zahl: 18
- Sprache: Deutsch

Modulzuordnung / Modules

734 ATMEC 2017: –

734 ATMEC dual 2017: –

749 ATMEC 2022: –

749 ATMEC dual 2022: –

750 ISS 2022: –

750 ISS dual 2022: –

987 TI 2012: –

988 ISTI 2012: –

705 DSI 2012: –

990 IFI 2012: 3.8

990 IFI 2021: 4.14 / 6.12

728 IFI dual 2016: 6.2 / 6.3

728 IFI dual 2021: 4.14 / 6.12

998 ISMI 2012: –

998 ISMI 2021: –

748 ISMI dual 2021: –

Veranstaltungstitel

Secure Software Development

Lernziele / Course objectives

- Raising general awareness of software security and its critical importance
- Enhancing your software engineering expertise by including security-related aspects in the software development lifecycle
- Improving your skills in secure software development
- Gaining insight into common software attacks, particularly through hands-on experience in executing these attacks

Inhalt / Content

- Introduction to Secure Software Development
- Secure Software Development Lifecycle & Threat Modeling
- Software Security Fundamentals
- Secure Coding Principles
- Attack Basics
- Preparing, executing and analyzing typical software attacks, e.g., *Heartbleed, SQL Injection, Cross Site Scripting (XSS), Format String*
- Analyzing typical programming errors which lead to vulnerabilities

Voraussetzungen / Prerequisites

- This course covers required programming language fundamentals as well as required Linux know-how allowing you to understand and execute common attacks
- Nonetheless, general programming knowledge in at least one programming language, such as Java or C/C++, is required
- Very basic knowledge about Linux is a plus since attacks will be executed within a virtual machine

Prüfungsform(en) / Assessment method(s)

Written exam

Lehrmethoden / Teaching methods

Lecture, lab work (practical exercises/attacks), team work

Literatur / literature

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