Hands-On Web Security Course

An 8-day summer course by **Prof. Kameswari Chebrolu** for educators, students, and working professionals from industry and governmental organizations.

Start Date : June 15, 2024
End Date : June 23, 2024

Venue : Dept. of CSE, IIT Bombay

Scan to register or follow this link.

Course Overview

In today's digital world, web security has become a critical concern for individuals, businesses, and governments. This three-module **Hands-on Web Security Course** led by Prof. Kameswari Chebrolu will equip participants with the necessary expertise to safeguard web applications in an increasingly connected world. Through a combination of **theoretical lectures, practical demonstrations, and immersive lab sessions**, participants will explore how the web works, its guiding security principles, various attacks that can be launched against web applications and how to defend against such attacks gaining actionable insights in real-world scenarios.

The course starts on **June 15, 2024 (Saturday) and ends on June 23, 2024 (Sunday)**. However, Sundays are half-days, making a total of 8 days for the course.

Upon course completion, participants will receive a Certificate from IIT Bombay.

The course material will be available to the participants for one-year from the completion of the course.

Course Instructor

Prof. Kameswari Chebrolu, from the Department of Computer Science and Engineering at IIT Bombay, is the course instructor. She has conducted numerous teacher-training workshops, **impacting over 10,000 educators** in specialized Computer Science subjects and the utilization of educational technology tools. Currently, she holds the prestigious Prof. D.M. Dhamdhere Chair for Excellence in Teaching Methods.

Prof. Chebrolu's commitment to excellence has been recognized through awards such as the IITB Excellence in Teaching Award at the departmental level in 2022 and the institute level in 2010.

Who Should Attend?

Students

who want to gain invaluable hands-on experience and practical skills crucial for future success by engaging in practical lab work and real-world scenarios.

Teachers/Educators

who want to expand their knowledge to impart web security skills to students effectively, keep abreast of current trends/techniques in cybersecurity, and meet evolving educational demands.

Industry Professionals

who want to learn how to safeguard digital assets in their respective Industry and stay up to date in the evolving cybersecurity landscape.

Government Employees

who want to benefit from understanding the importance of web security in safeguarding government assets.

Course Structure

Theory lectures with code walk through will be done in the morning lecture slots and afternoons will focus on labs. Quizzes will be conducted daily to gauge the understanding of the participants.

Module 1

Covers web fundamentals. Topics include: Brief history of the web, what constitutes a web page, browser internals, web protocols, session management, server internals, and the current web security landscape.

Hand-in-hand with this theory, we will also explore some practical sessions involving the usage of Wireshark to explore web protocol traffic, Firefox/Chrome browser developer tools to inspect/edit web pages, cookies, storage, and OWASP ZAP, a versatile tool for web application security testing

Module 2

Focuses on Server-side attacks and defense. Topics include: SQL injection, Server Side Request Forgery (SSRF), Information disclosure, Command injection, File Upload Vulnerabilities, Authentication, Authorization, Path traversal, DDOS. Labs will explore a subset of these topics hands-on.

Module 3

Highlights client-side attacks and defense, Topics include: Cross-Site Request Forgery (CSRF), Cross-Origin Resource Sharing (CORS), Cross-Site Scripting (XSS), Web sockets, Clickjacking. Labs will explore a subset of these topics hands-on.

Special Topics

At the conclusion of the modules, a lecture on special topics such as Third Party Code, Web LLM attacks, Subdomain Takeover, etc will also be covered.

Course Highlights

Rigorous Hands-On Lab Work

Immersive lab sessions, where the participants will mostly do activity-based learning, thus gaining practical exposure in tackling system vulnerability & security attacks.

Cutting-Edge Curriculum

Stay ahead of the curve with up-to-date content, ensuring relevance and applicability in today's rapidly evolving cybersecurity landscape.

Association with IIT Bombay

Add credibility to your professional profile by becoming a certified professional from IIT Bombay.

Course Prerequisites

Basic knowledge of Unix command line, HTML, CSS, Javascript, SQL is essential to take full advantage of the course. While in theory lectures, when showcasing vulnerabilities, all used code will be fully explained line by line but for hands-on labs, those without this knowledge will find it difficult to complete the labs. Exposure to Python, PHP or other dynamic web frameworks is also useful but not necessary.

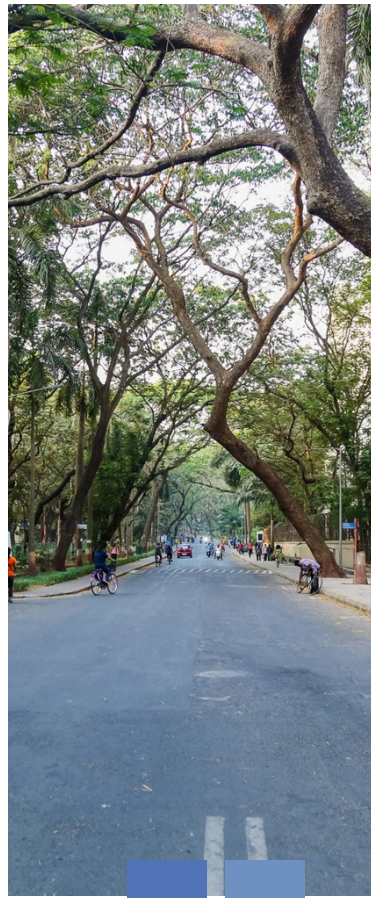
Course Fee

Academia (Students & Professors)	: INR 41, 300
Govt./Industry professionals	: INR 57, 820
Foreign Nationals	: INR 1, 16, 820

The above amounts include 18% GST per participant.

Campus Accommodation

Participants have the option to avail of accommodation facilities on a first-cum-first served basis on the IIT Bombay campus for the duration of the course either in the Institute Guest House or at the hostel at extra cost. We have limited room which can fill up fast, so please apply at the earliest. However, we encourage all participants to arrange for their own accommodation.



Additional Information

For more information, please visit this link. The FAQs provided at the same link are a valuable source of information.

IITB TRUST LAB

DIGITAL : SECURE : RESPONSIBLE

Located within IIT Bombay's Computer Science and Engineering Department, IITB Trust Lab is advancing Digital Trust on **three fronts: Science, Technology, and Ecosystem.** With a distinguished cohort of 30 faculty members from various disciplines, our lab serves as a focal point for Doctoral, PG, and UG students engaged in exploring diverse facets of Digital Trust.

At Trust Lab, we offer a range of opportunities to researchers, teachers, students, and professionals, including Summer & Winter schools, workshops, Internships, Capture the Flag competitions, a Pre-Doctoral program, research grants, research awards, internships, and more.

Join us in shaping the future of Digital Trust.

Visit our website and subscribe to our social media channels for regular updates

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