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**UPCOMING EVENTS**

- [AFCEA Luncheon](#)  
September 23, 2010  
(11:30 am - 1:00 pm)
- [WIIG Network Social](#)  
September 23, 2010 (5:00 pm - 7:00 pm)
- [Fall Golf Outing](#)  
October 01, 2010 (All Day)
- [AFCEA Luncheon](#)  
October 28, 2010 (11:30 am - 1:00 pm)
- [YAC Bull & Oyster Roast](#)  
November 06, 2010 (2:00 pm - 6:00 pm)
- [AFCEA Luncheon](#)  
November 18, 2010 (11:30 am - 1:00 pm)
- [AFCEA Luncheon](#)  
January 27, 2011 (11:30 am - 1:00 pm)

[View Full Calendar](#)

**ANNOUNCEMENTS**

- [AFCEACMD Google Group Luncheon - new location - MARTIN'S CROSSWINDS in Greenbelt Luncheon Speaker - next Thursday!](#)
- [IT'S NOT TOO LATE - Sign up Now for the WIIG Fundraiser - THIS SUNDAY!!](#)
- [Fall Golf Outing, October 1st \(all the details\)](#)
- [Fall 2010 NSA Acquisition/Industry Symposium, November 3rd](#)
- [Fall Golf Outing, October 1st](#)
- [Bull & Oyster Roast - November 6, 2010](#)
- [Night at Camden Yards, purchase deadline: Tuesday 9/7!](#)
- [WIIG Fundraiser on 9/12, RSVP by 9/9](#)
- [Cyber Training](#)

[View All Items](#)

**OFFICER LOGIN**

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**Training Week**

[PRINT](#) [EMAIL](#)

AFCEA Central Maryland Presents Cyber Training Week. Training Week is a developing program for local delivery of professional development courses. The deeply discounted rates provided to members are representative of AFCEA Central Maryland Chapter and its partner's commitment to the community and ensuring critical skills are accessible.

[Windows Exploits](#) | [CEH](#) | [SCADA](#) | [Adv Ethical Hacking](#) | [App Security](#) | [Rev Engineering](#) | [CISSP](#)

**Writing Windows Exploits (Sept 14-16)**

[Syllabus \(pdf\)](#)

The Expert Penetration Testing course provides an in-depth and hands-on review of the most current exploit development strategies and techniques for the Microsoft Windows platform. This course is designed to provide a hands-on, interactive learning experience. To the end, the course includes approximately 30 minutes of lab work after each hour of lecture and Q&A time.

**Price:** \$2,149

**Registration:** If you would like additional information on this training or if you would like to register, please contact Jamie Lichon at InfoSec Institute at 866-471-0059 ext. 7188 or [jamie.lichon@infosecinstitute.com](mailto:jamie.lichon@infosecinstitute.com).

**Location:** 8161 Maple Lawn Blvd, Suite 300 Fulton MD 20759

**Certified Ethical Hacker (CEH) (Sept 20-24)**

The CEH Program certifies individuals in the specific network security discipline of Ethical Hacking from a vendor-neutral perspective. The Certified Ethical Hacker certification will fortify the application knowledge of security officers, auditors, security professionals, site administrators, and anyone who is concerned about the integrity of the network infrastructure. A Certified Ethical Hacker is a skilled professional who understands and knows how to look for the weaknesses and vulnerabilities in target systems and uses the same knowledge and tools as a malicious hacker.

[Syllabus \(pdf\)](#)

**SCADA Security (Sept 27- Oct 1)**

SCADA controls our nation's mission critical infrastructure, everything from the power grid to water treatment facilities. Gain homeland security skills, by learning to assess and secure SCADA systems. This course covers everything from field based attacks to automated vulnerability assessments for SCADA networks.

[Syllabus \(pdf\)](#)

**Advanced Ethical Hacking (Oct 4-8)**

InfoSec Institute's Advanced Ethical Hacking: Advanced Penetration Testing Training comprehensive 5 day program designed to bring you to the next level in terms of software exploitation skills. Very few people in the world have these skills, after completing the course, you will be in the top 5% of all hackers and pen testers in the world.

[Syllabus \(pdf\)](#)

**Application Security & Penetration Testing (Oct 18-22)**

InfoSec Institute's Award Winning 5-Day Web Application Penetration Testing Boot Camp focuses on preparing students for the real world of Web App Pen Testing through extensive lab exercises, thought provoking lectures led by an expert instructor. We review of the entire body of knowledge as it pertains to web application pen testing through a high-energy seminar approach.

[Syllabus \(pdf\)](#)

**Reverse Engineering (Nov 1-5)**

In any hands on reverse engineer training course, it is important to have the opportunity to prove to current or potential employers that you have the skills you say you do. This course prepares you for the top reverse engineering certification in the industry, the CREA. The exam is given on-site, InfoSec Institute has achieved a 93% pass rate for this certification.

[Syllabus \(pdf\)](#)

**Certified Information Security Professional (CISSP) (Dec 6-10)**

Security is a leading concern in every organization and the CISSP Certification is the premier security certification available today for information assurance professionals looking to differentiate themselves among their colleagues. In fact, the DoD 8570 directive recognizes the CISSP as an important credential for the DoD workforce.

**SPONSORS**



[more...](#)

**TRAINING WEEK**

**Cyber Training**

Expert Penetration Testing:  
[Writing Windows Exploits](#)

[More info...](#)

**NEWS AND PHOTOS**

- [5K Pics - Set 5](#)
- [5K Pics - Set 4](#)
- [5K Pics - Set 3](#)
- [5K Pics - Set 2](#)
- [5K Pics - Set 1](#)
- [Awards Night Candid Photos](#)
- [Awards Night Photos Luncheon Pics \(03.25.2010\)](#)
- [Luncheon Pics \(02.25.2010\)](#)
- [Valentine's Gala Pics - 2](#)
- [Valentine's Gala Pics - 1](#)
- [Emerging Leadership Award Winner - Beth Sheehy](#)
- [DYA Award Winner - Richard Windsor](#)
- [DYA Award Winner - Randy Findley](#)
- [2009 Bull & Oyster Roast Pics](#)

## Certified Ethical Hacker Training

### About the Program

Securable, LLC can offer your organization Certified Ethical Hacker training. If you want to stop hackers from invading your network, first you've got to invade their minds.

The goal of the ethical hacker is to help the organization take preemptive measures against malicious attacks by attacking the system himself; all the while staying within legal limits. This philosophy stems from the proven practice of trying to catch a thief, by thinking like a thief. As technology advances and organization depend on technology increasingly, information assets have evolved into critical components of survival.

If hacking involves creativity and thinking 'out-of-the-box', then vulnerability testing and security audits will not ensure the security proofing of an organization. To ensure that organizations have adequately protected their information assets, they must adopt the approach of 'defense in depth'. In other words, they must penetrate their networks and assess the security posture for vulnerabilities and exposure.

The CEH Program certifies individuals in the specific network security discipline of Ethical Hacking from a vendor-neutral perspective. The Certified Ethical Hacker certification will fortify the application knowledge of secu-

urity officers, auditors, security professionals, site administrators, and anyone who is concerned about the integrity of the network infrastructure. A Certified Ethical Hacker is a skilled professional who understands and knows how to look for the weaknesses and vulnerabilities in target systems and uses the same knowledge and tools as a malicious hacker.

**To achieve the Certified Ethical Hacker Certification, you must pass the CEH exam 312-50**

Call Securable, LLC today at 703-879-3310 to see how we can help your organization meet its high quality technical training needs.



### EC-Council

Accredited Training Center

 **CompTIA**  
Learning Alliance  
CompTIA Approved Training

 **AUTHORIZED TRAINING PARTNER**

### Program Elements

#### Provided Resources

- Certified Ethical Hacker Instructor
- Ec-Council Authorized Courseware
- MeasureUp Practice Test Software
- Prometric Exam Voucher
- Dedicated equipment for each student

#### Course Options

- ◆ Flexible schedules including day, evening, or weekend sessions
- ◆ Dedicated class for your organization
- ◆ Catering

#### When an organization hires Securable here is what they get:

- Security solutions that address the organization's needs
- Cost effective solutions that are the right thing at the right time
- The quality guarantee of our work - we want satisfied customers and will do what it takes to keep the client satisfied

#### Organization Details

#### Securable, LLC

3213 Duke St #220  
Alexandria, VA 22314  
Phone: 703-879-3310  
Fax: 703-754-8215  
<http://www.securible.com>

DUNS #: 80-778-4991  
Small Business  
POC: Ameer Devine

# SCADA Security

Protecting our Homeland Security

InfoSecInstitute.com | 866-471-0059

## Learn to how to effectively secure your SCADA Systems

In this  
Brochure:



### Page 1

InfoSec Institute's  
SCADA Security  
Overview

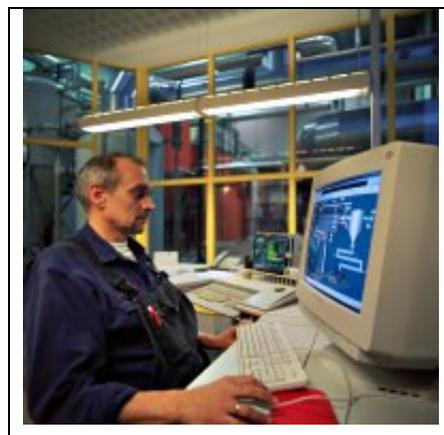
### Pages 2-3

Detailed Syllabus

SCADA controls our nation's mission critical infrastructure, everything from the power grid to water treatment facilities. Gain homeland security skills, by learning to assess and secure SCADA systems. This course covers everything from field based attacks to automated vulnerability assessments for SCADA networks.

Learn the best practices for security SCADA networks and systems inside and out. InfoSec Institute shows you how to defend against both internal and external attackers to provide holistic security for critical industrial automation systems.

InfoSec Institute's instructors have real world hands on experience securing some of the most high profile energy delivery, water treatment and mission critical SCADA system.



Dozens of exercises in InfoSec Institute's Hands On Labs bring you up to speed with the latest threats to your SCADA systems. Learn subjects not found in books, on the internet, or taught anywhere else in any other information security class.

## Detailed 3 Day Syllabus

InfoSec Institute's SCADA Security: Protecting our Homeland Security comprehensive 3 day program is unique in the industry, no one else has a technical SCADA course available to the public.

### Day 1: Best Practices and Perimeter Security

The first day begins with SCADA security best practices, with the rest of the day focused on properly implementing Physical and Logical perimeters. Topics Include:

- Introduction to SCADA Security Concepts
- Security Approach
- Industrial Network Policy Development
- SCADA Systems Audit
- Physical Security Considerations
- Field-Based Attacks
- Logical Security Perimeter
- DMZ Architectures for SCADA Networks
- Common DMZ Elements
- Common Rulesets
- Control Center Remote Access
- Vendor Access
- Antivirus Issues
- Security Patching Methodologies
- Compensating Controls
- Automating the Delivery of Patches to the SCADA Net

Every day includes lunch, snacks, soda, and finishes with catered dinner on InfoSec Institute!

### Day 2: Access and Authorization Controls

Having learned how to properly segment, protect and assess the SCADA network, access control within SCADA systems are covered:

- Identification
- User Account Issues
- Password Policy Enforcement
- Two-Factor Authentication on Industrial Networks
- Role Based Authentication
- Location Based Auth
- System Based Auth
- SCADA Application Integration Security Issues
- Microsoft Active Directory Integration Issues
- Gold Standard Configs
- Strong Auth Support
- IPSec
- Data Security Classifications
- Current SCADA Security Standards
- Implementing Current Standards

## Student Testimonials



### See what previous students have to say:

■ *"The instructor was one of the most brilliant people in the field of information security that I have met. After 2 weeks of being in his course, I feel that I have gained a great deal of knowledge in this field. Yet only about 10% of what he knows!!!"*

**Kawika Takayama, Verizon Federal Network Services**

■ *"This was the best course that I have ever attended. The content was perfect for keeping me interested. I've attended many courses where I didn't feel like the first few days were worth my time, but not here. I was constantly learning new things."*

**Seth Law, Zions Bank**

## Detailed 3 Day Syllabus Continued

### Day 3: Intrusion Prevention and Detection

Having understood the complex nature of SCADA perimeter security, authentication and authorization models, the third day of the course focuses on detection of anomalous events that could indicate system abuse or worse.

- Vulnerable Systems Analysis
- SCADA Protocol Analysis
- SCADA Protocol Vulnerabilities
- Network Based Intrusion Detection
- Modbus/TCP specific Intrusion Detection Rules
- Log collection
- Log correlation
- Event management
- Alert Management
- Field WAN Networks
- Internet Based WAN Networks
- Wireless SCADA Security Issues
- Vulnerability Assessment
- Legacy Systems
- Exceptions
- Security Awareness Programs
- Final Exam (90 Questions)

## **Advanced Ethical Hacking: Expert Penetration Testing** 5 Day Detailed Syllabus

InfoSec Institute's Advanced Ethical Hacking: Advanced Penetration Testing Training comprehensive 5 day program designed to bring you to the next level in terms of software exploitation skills. Very few people in the world have these skills, after completion of the course, you will be in the top **5%** of all hackers and pen testers in the world.

### **Day 1: Advanced System Exploitation**

Day 1 focuses on advanced exploitation techniques. A brief introduction to system exploitation will be covered, the rest of the day covers advanced topics, such as:

- Introduction
- System Exploitation Process
- Buffer Overflows
- Attacking DMZs
- Port Redirection
- Hiding from IDSs
- Covert Channels
- Windows Rootkits
- Linux Rootkits
- Privilege Escalation On Windows XP

Some of the instructor-led **hands-on lab** exercises:

- System Exploitation
- Attacking DMZs II
- Covert Channels Lab
- Circumventing IDS/IPS
- Windows Rootkits
- Linux Rootkits (LKMs)
- XP Privilege Escalation

Capture the Flag exercises **every night!**

The day finishes with an all encompassing after-dinner Capture the Flag exercise. It ensures that you can put everything together that you learned during the day.

### **Day 2: Vulnerability Development**

Having learned expert exploitation techniques in Day 1, Day 2 covers the art of vulnerability development. You will learn not how to use exploits, but how to **create** your own.

- Introduction to Vuln Dev
- C Language Buffer Overflows
- Linux Stack Overflows
- Writing Shellcode
- Format String attacks
- Windows Stack Overflows

Some of the instructor-led **hands-on lab** exercises:

- Overflowing Buffers
- Lab Exploiting Stack Overflows
- Linux Shellcode
- Firewall ACL flushing shellcode
- Format Strings Lab
- Windows overflow lab
- Windows shellcode
- Overcoming Unicode Filters

Capture the Flag exercises **every night**

### **Day 3: Advanced Vuln Dev and Vulnerability Discovery**

Having learned how to write exploits, Day 3 works on advanced concepts such as Heap Overflows and covers the vulnerability discovery process in detail.

- Calculating offsets for Windows exploits
- Heap Overflows
- Introduction to Kernel Overflows
- Advanced Vuln Dev - Heap Overflows
- Windows vuln dev Security Vulnerability Genres
- Fuzzing and Fault Injection
- Instrumented Investigation
- Binary Auditing
- Source code analysis

Some of the instructor-led **hands-on lab** exercises:

- Abusing the Structured Exception Handler (SEH)
- Heap Overflow lab
- Fuzzing Lab
- Fault Monitoring Lab
- Binary Auditing Lab with IDA Pro
- Source Code analysis

Capture the Flag exercises **every night!**

The day finishes with an all encompassing after-dinner Capture the Flag exercise. It ensures that you can put everything together that you learned during the day.

### **Day 4: Reverse Engineering**

This day deals specifically with the art of reverse engineering. Using tools such as IDA Pro, Softice, ProcDump, you will learn how programs are reverse engineered.

- Introduction to Software Cracking
- Commercial CD-ROM copy protections
- Circumventing CD-ROM copy protections
- Portable Executable (PE) Compression and Encoding
- Using a Disassembler
- Creating Keygens
- Attacking hardware/dongle protection schemes
- Anti-debugging
- Anti-disassembling
- Detecting and Attacking SoftICE

Some of the instructor-led **hands-on lab** exercises:



Basic software cracking  
Intermediate software cracking  
Removing timelimits  
Manual binary decryption  
Advanced software cracking  
Detecting Breakpoints and Debuggers  
Capture the Flag exercises **every night!**

### **Day 5: Advanced Web Application Hacking**

Day 5 is totally dedicated to the latest frontier in hacking and information security -- web application hacking. You will come to master the advanced penetration of web applications and web enabled devices.

Attacking Java applets and applications  
Web program fuzzing  
Advanced SQL Injection  
Proxy cache poisoning  
SQL Injection in cookies  
Attacking session Ids  
Cross Site Scripting

Some of the instructor-led **hands-on lab** exercises:

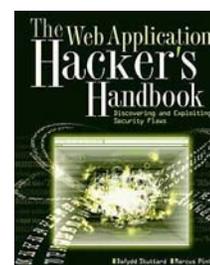
Harvesting web application data  
Web App fuzzing  
SQL Injection on PHP/MySQL  
Sneaky SQL Injection  
Java applet hooking  
Calculating the Return on Investment (ROI) for an ethical hack

# Web Application Penetration Testing Course

## InfoSec Institute's 5-Day Web Application Penetration Testing Course



InfoSec Institute's Award Winning 5-Day Web Application Penetration Testing Boot Camp focuses on preparing students for the real world of Web App Pen Testing through extensive lab exercises, thought provoking lectures led by an expert instructor. We review of the entire body of knowledge as it pertains to web application pen testing through a high-energy seminar approach.



## InfoSec Institute's Web Application Penetration Testing Boot Camp - Course Description

[www.infosecinstitute.com](http://www.infosecinstitute.com)

866.471.0059

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# Web Application Penetration Testing Course

InfoSec Institute offers this award winning Web Application Penetration Testing program to train and prepare IT Security Professionals. The highlights of this course include:

- Learn the Secrets of Web App Pen Testing in a totally **hands-on** classroom environment
- Learn how to exploit and defend real-world web apps - not just *silly* sample code
- Complete the 83 Step "Web App Pen Test Methodology", and bring a copy back to work with you
- Understand how to find Vulnerabilities in Source Code
- Take home a fully featured Web App Pen Test Toolkit
- Learn how to do OWASP Top 10 Assessments - for PCI DSS compliance and others
- Certified IACRB CWAPT (Web Application Penetration Tester) Exam delivered On-Site

## Intensive Hands-On Training

The Web Application Penetration Testing course from InfoSec Institute is a totally hands-on learning experience. From the first day to the last day, you will learn the ins and outs of Web App Pen Testing by attending thought provoking lectures led by an expert instructor. Every lecture is directly followed up by a comprehensive lab exercise (we also set up and provide lab workstations so you don't waste valuable class time installing tools and apps). Typical lab exercises consist of a real-world app that demonstrates a vulnerability commonly found in a web app. You learn how to assess the app much as a black hat hacker would, exploit the app so that you can demonstrate the true risk of the vulnerability to the application owner. This can involve taking control of the application itself, downloading data the application stores, or potentially using the app as a launching pad to attack unsuspecting visitors with a malicious script. Finally, the lab will follow up with remediation steps so that the application owner can properly close down the security hole for good.

## Nightly Capture The Flag (CTF) Exercises

After learning important Web App Pen Testing concepts during the day in a structured learning environment led by an expert instructor, it is important in the knowledge transfer process to attempt to apply the concepts you learned during the day in an unscripted, controlled exercise. The InfoSec Institute CTF exercises consist of a variety of web applications set up and designed to mimic the web presence of a company, a bank, a credit union, and an internal web app. You are then challenged by the instructor to capture specific flags that require you to apply your knowledge gained during the day. The CTFs are instructor-supervised, so if you get stuck, there is always a resource at hand to offer guidance.

At InfoSec Institute, we feel CTFs are a tremendous way to ensure you leave the course with the skills needed to perform Web App Pen Tests at work after the course is completed.

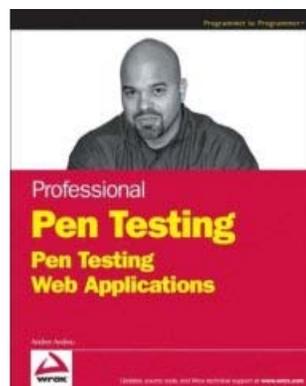
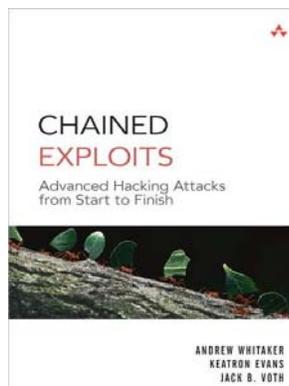
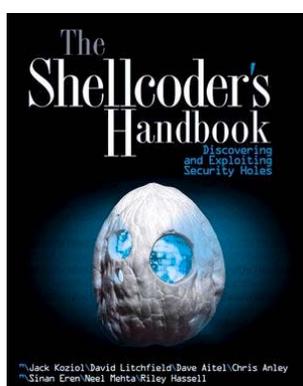
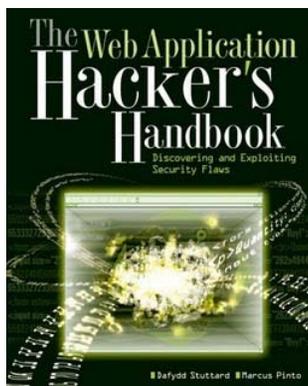
## Up To Date, Current, Courseware

The threat landscape for Web Applications changes on a near continuous basis. Bad guys wishing to attack your applications know that they need to stay ahead of the curve in order to get in. For this reason, InfoSec Institute continuously updates our Web App Pen Testing courseware to cover the latest and greatest threats, exploits and mitigation strategies.

# Web Application Penetration Testing Course

## Expert Instruction

InfoSec Institute instructors that teach the Web App Pen Testing course are highly seasoned and have years of in the field pen testing experience. Not only are they active in the field of pen testing, they are industry-recognized experts that present at conferences such as DEFCON, Black Hat Briefings, RSA Security. Many of our instructors have authored some of the top Penetration Testing books on the market today:



## Prerequisites

This course is a technical security course targeted at IT Security Professionals, Security Engineers, Penetration Testers, Software Developers and QA Engineers. You should have some experience with Penetration Testing, IT Security and the Software Development Life Cycle (SDLC).

# Web Application Penetration Testing Course

## The TOTAL Immersion Experience

During the five day program, our instructors give you 110% of their time and dedication to ensure that your time is well spent. The typical daily schedule rolls out as follows:

### 5 Day Web Application Pen Testing Class

Schedule	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
8:30am to 12:30pm	Web Application (In)security  Core Defense Mechanisms - OWASP Top 10	Bypassing Client-Side Controls  Attacking Authentication	Attacking Access Controls  Attacking & Assessing Application Architectures	Exploiting Path Traversal  Attacking Web App Users - Reflected Attacks	Attacking Compiled Applications  Source Code Auditing
12:30pm - 1:30pm	Lunch Provided	Lunch Provided	Lunch Provided	Lunch Provided	Lunch Provided
1:30pm - 5:30pm	Web Application Technologies Relevant for Pen Testers	Attacking Session Management	Injecting Code	Exploiting Information Disclosure Vulnerabilities	Take IACRB CWAPT Certification Exam Onsite
5:30pm - 7:00pm	Break	Break	Break	Break	
7:00pm to 10PM (Approx. )	Capture The Flag Exercises	Capture The Flag Exercises	Capture The Flag Exercises	Capture The Flag Exercises	

Note: Schedule Subject to Change. Our instructors are there to see that all of your questions are addressed, even during evening labs.

# Web Application Penetration Testing Course

## InfoSec Institute's Web Application Penetration Testing - Course Details

### Web Application (In)security

The Core Security Problem: Users Can Submit Arbitrary Input

Key Problem Factors

Immature Security Awareness

In-House Development

Deceptive Simplicity

Rapidly Evolving Threat Profile

Resource and Time Constraints

Overextended Technologies

The New Security Perimeter

The Future of Web Application Security

### Core Defense Mechanisms - OWASP Top 10

Injection

Cross-Site Scripting (XSS)

Broken Authentication and Session Management

Insecure Direct Object References

Cross-Site Request Forgery (CSRF)

Security Misconfiguration

Insecure Cryptographic Storage

Failure to Restrict URL Access

Insufficient Transport Layer Protection

Unvalidated Redirects and Forwards

### Web Application Technologies Relevant for Pen Testers

HTTP Requests, Responses, Methods, Headers

General, Request, Response Headers

Cookies

Status Codes

HTTPS

HTTP Proxies

HTTP Authentication

Server-Side Functionality

The Java, ASP.NET, PHP Platforms for Pen Testers

Client-Side Functionality

JavaScript

Thick Client Components

State and Sessions

Encoding Schemes, URL Encoding, Unicode Encoding

### Bypassing Client-Side Controls

Transmitting Data via the Client

Auto-Discover Hidden Form Fields

HTTP Cookies

URL Parameter Injection

Manipulating The Referer Header

Tampering with Opaque Data

Hacking ASP.NET ViewState

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# Web Application Penetration Testing Course

- Capturing User Data: HTML Forms
- Length Limits
- Script-Based Validation
- Disabled Elements
- Capturing User Data: Thick-Client Components
- Java Applets
- Decompiling Java Bytecode
- Coping with Bytecode Obfuscation
- Hacking ActiveX Controls
- Reverse Engineering ActiveX
- Manipulating Exported Functions
- Fixing Inputs Processed by Controls
- Decompiling Managed Code
- Tampering with Shockwave Flash Objects
- Handling Client-Side Data Securely
- Transmitting Data via the Client
- Validating Client-Generated Data
- Logging and Alerting

## Attacking Authentication

- Authentication Technologies
- Common Design Flaws in Authentication Mechanisms
- Bad Passwords
- Brute-Forcible Login
- Exploiting Verbose Failure Messages
- Exploiting Vulnerable Transmission of Credentials
- Attacking Password Change Functionality & Forgotten Password Functionality
- Exploiting "Remember Me" Functionality
- User Impersonation Functionality
- Incomplete Validation of Credentials
- Non-Unique Usernames
- Predictable Usernames & Initial Passwords
- Insecure Distribution of Credentials
- Implementation Flaws in Authentication
- Fail-Open Login Mechanisms
- Defects in Multistage Login Mechanisms
- Insecure Storage of Credentials
- Securing Authentication
- Use Strong Credentials
- Handle Credentials Secretively
- Validate Credentials Properly
- Prevent Information Leakage
- Prevent Brute-Force Attacks
- Prevent Misuse of the Password Change Function
- Prevent Misuse of the Account Recovery Function
- Log, Monitor, and Notify

## Attacking Session Management

- The Need for State
- Alternatives to Sessions
- Weaknesses in Session Token Generation
- Meaningful Tokens

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[www.infosecinstitute.com](http://www.infosecinstitute.com)

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# Web Application Penetration Testing Course

- Hacking Predictable Tokens
- Exploiting Concealed Sequences
- Exploiting Time Dependency
- Exploiting Weak Random Number Generation
- Weaknesses in Session Token Handling
- Disclosure of Tokens on the Network
- Disclosure of Tokens in Logs
- Vulnerable Mapping of Tokens to Sessions
- Vulnerable Session Termination
- Client Exposure to Token Hijacking
- Liberal Cookie Scope
- Cookie Domain Restrictions
- Cookie Path Restrictions
- Securing Session Management
- Generate Strong Tokens
- Protect Tokens throughout Their Lifecycle
- Per-Page Tokens
- Log, Monitor, and Alert
- Reactive Session Termination

## Attacking Access Controls

- Common Vulnerabilities
- Completely Unprotected Functionality
- Targeting Identifier-Based Functions
- Attacking Multistage Functions
- Locating Static Files
- Insecure Access Control Methods
- Attacking Access Controls
- Securing Access Controls
- A Multi-Layered Privilege Model

## Injecting Code

- Injecting into Interpreted Languages
- Injecting into SQL
- Exploiting a Basic Vulnerability
- Bypassing a Login
- Finding SQL Injection Bugs
- Injecting into Different Statement Types
- The UNION Operator
- Fingerprinting the Database
- Extracting Useful Data
- An Oracle Hack
- An MS-SQL Hack
- Exploiting ODBC Error Messages (MS-SQL Only)
- Enumerating Table and Column Names
- Extracting Arbitrary Data
- Using Recursion
- Bypassing Filters
- Second-Order SQL Injection
- Advanced Exploitation
- Retrieving Data as Numbers
- Using an Out-of-Band Channel

# Web Application Penetration Testing Course

Using Inference: Conditional Responses  
Beyond SQL Injection: Escalating the Database Attack  
MS-SQL  
Oracle  
MySQL  
SQL Syntax and Error Reference  
SQL Syntax  
SQL Error Messages  
Preventing SQL Injection  
Partially Effective Measures  
Parameterized Queries  
Defense in Depth  
Injecting OS Commands  
Injecting via Perl  
Injecting via ASP  
Finding OS Command Injection Flaws  
Preventing OS Command Injection  
Injecting into Web Scripting Languages  
Dynamic Execution Vulnerabilities  
Dynamic Execution in PHP  
Dynamic Execution in ASP  
Finding Dynamic Execution Vulnerabilities  
File Inclusion Vulnerabilities  
Remote File Inclusion  
Local File Inclusion  
Finding File Inclusion Vulnerabilities  
Preventing Script Injection Vulnerabilities  
Injecting into SOAP  
Finding and Exploiting SOAP Injection  
Preventing SOAP Injection  
Injecting into XPath  
Subverting Application Logic  
Informed XPath Injection  
Blind XPath Injection  
Finding XPath Injection Flaws  
Preventing XPath Injection  
Injecting into SMTP  
Email Header Manipulation  
SMTP Command Injection  
Finding SMTP Injection Flaws  
Preventing SMTP Injection  
Injecting into LDAP  
Injecting Query Attributes  
Modifying the Search Filter  
Finding LDAP Injection Flaws  
Preventing LDAP Injection

**Exploiting Path Traversal**  
Common Vulnerabilities  
Finding and Exploiting Path Traversal Vulnerabilities  
Locating Targets for Attack  
Detecting Path Traversal Vulnerabilities

# Web Application Penetration Testing Course

Circumventing Obstacles to Traversal Attacks  
Coping with Custom Encoding  
Exploiting Traversal Vulnerabilities  
Preventing Path Traversal Vulnerabilities

## Attacking Web App Users - Reflected Attacks

Cross-Site Scripting  
Reflected XSS Vulnerabilities  
Exploiting the Vulnerability  
Stored XSS Vulnerabilities  
Storing XSS in Uploaded Files  
DOM-Based XSS Vulnerabilities  
Real-World XSS Attacks  
Chaining XSS and Other Attacks  
Payloads for XSS Attacks  
Virtual Defacement  
Injecting Trojan Functionality  
Inducing User Actions  
Exploiting Any Trust Relationships  
Escalating the Client-Side Attack  
Delivery Mechanisms for XSS Attacks  
Delivering Reflected and DOM-Based XSS Attacks  
Delivering Stored XSS Attacks  
Finding and Exploiting XSS Vulnerabilities  
Finding and Exploiting Reflected XSS Vulnerabilities  
Finding and Exploiting Stored XSS Vulnerabilities  
Finding and Exploiting DOM-Based XSS Vulnerabilities  
HttpOnly Cookies and Cross-Site Tracing  
Preventing XSS Attacks  
Preventing Reflected and Stored XSS  
Preventing DOM-Based XSS  
Preventing XST  
Redirection Attacks  
Finding and Exploiting Redirection Vulnerabilities  
Circumventing Obstacles to Attack  
Preventing Redirection Vulnerabilities  
HTTP Header Injection  
Exploiting Header Injection Vulnerabilities  
Injecting Cookies  
Delivering Other Attacks  
HTTP Response Splitting  
Preventing Header Injection Vulnerabilities  
Frame Injection  
Exploiting Frame Injection  
Preventing Frame Injection  
Request Forgery  
On-Site Request Forgery  
Cross-Site Request Forgery  
Exploiting XSRF Flaws  
Preventing XSRF Flaws  
JSON Hijacking  
JSON

# Web Application Penetration Testing Course

- Attacks against JSON
  - Overriding the Array Constructor
  - Implementing a Callback Function
  - Finding JSON Hijacking Vulnerabilities
  - Preventing JSON Hijacking
- Session Fixation
  - Finding and Exploiting Session Fixation Vulnerabilities
  - Preventing Session Fixation Vulnerabilities
- Attacking ActiveX Controls
  - Finding ActiveX Vulnerabilities
  - Preventing ActiveX Vulnerabilities
- Local Privacy Attacks
  - Persistent Cookies
  - Cached Web Content
  - Browsing History
  - Autocomplete
  - Preventing Local Privacy Attacks
- Advanced Exploitation Techniques
  - Leveraging Ajax
  - Making Asynchronous Off-Site Requests
  - Anti-DNS Pinning
  - A Hypothetical Attack
  - DNS Pinning
  - Attacks against DNS Pinning
- Browser Exploitation Frameworks

## **Exploiting Information Disclosure Vulnerabilities**

- Exploiting Error Messages
  - Script Error Messages
  - Stack Traces
  - Informative Debug Messages
  - Server and Database Messages
  - Using Public Information
  - Engineering Informative Error Messages
  - Gathering Published Information
  - Using Inference
  - Preventing Information Leakage
  - Use Generic Error Messages
  - Protect Sensitive Information
  - Minimize Client-Side Information Leakage

## **Attacking Compiled Applications**

- Buffer Overflow Vulnerabilities
  - Stack Overflows
  - Heap Overflows
  - "Off-by-One" Vulnerabilities
- Detecting Buffer Overflow Vulnerabilities
- Integer Vulnerabilities
  - Integer Overflows
  - Signedness Errors
  - Detecting Integer Vulnerabilities
- Format String Vulnerabilities

# Web Application Penetration Testing Course

Detecting Format String Vulnerabilities

## Attacking & Assessing Application Architectures

- Tiered Architectures
- Attacking Tiered Architectures
- Exploiting Trust Relationships between Tiers
- Subverting Other Tiers
- Attacking Other Tiers
- Securing Tiered Architectures
- Minimize Trust Relationships
- Segregate Different Components
- Apply Defense in Depth
- Shared Hosting and Application Service Providers
- Virtual Hosting
- Shared Application Services
- Attacking Shared Environments
- Attacks against Access Mechanisms
- Attacks between Applications
- Securing Shared Environments
- Secure Customer Access
- Segregate Customer Functionality
- Segregate Components in a Shared Application

## Source Code Auditing

- Approaches to Code Review
- Black-Box vs. White-Box Testing
- Code Review Methodology
- Signatures of Common Vulnerabilities
- Cross-Site Scripting
- SQL Injection
- Path Traversal
- Arbitrary Redirection
- OS Command Injection
- Backdoor Passwords
- Native Software Bugs
- Buffer Overflow Vulnerabilities
- Integer Vulnerabilities
- Format String Vulnerabilities
- Source Code Comments
- The Java Platform
- Identifying User-Supplied Data
- Session Interaction
- Potentially Dangerous APIs
- File Access
- Database Access
- Dynamic Code Execution
- OS Command Execution
- URL Redirection
- Sockets
- Configuring the Java Environment
- ASP.NET
- Identifying User-Supplied Data

# Web Application Penetration Testing Course

Session Interaction  
Potentially Dangerous APIs  
File Access  
Database Access  
Dynamic Code Execution  
OS Command Execution  
URL Redirection  
Sockets  
Configuring the ASP.NET Environment  
PHP  
Identifying User-Supplied Data  
Session Interaction  
Potentially Dangerous APIs  
File Access  
Database Access  
Dynamic Code Execution  
OS Command Execution  
URL Redirection  
Sockets  
Configuring the PHP Environment  
Register Globals  
Safe Mode  
Magic Quotes  
Miscellaneous  
Perl  
Identifying User-Supplied Data  
Session Interaction  
Potentially Dangerous APIs  
File Access  
Database Access  
Dynamic Code Execution  
OS Command Execution  
URL Redirection  
Sockets  
Configuring the Perl Environment  
JavaScript  
Database Code Components  
SQL Injection  
Calls to Dangerous Functions  
Tools for Code Browsing

Reviewing the 83 Step Web Application Pen Tester Methodology

Review for CWAPT Certification Exam

## InfoSec Institute's 5 Day Web Application Pen Testing Boot Camp - Schedule

To view our current course schedule and locations, visit InfoSec Institute's online at:

[http://www.infosecinstitute.com/courses/web\\_application\\_hacking\\_training.html](http://www.infosecinstitute.com/courses/web_application_hacking_training.html)

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[www.infosecinstitute.com](http://www.infosecinstitute.com)

**866.471.0059**

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# Web Application Penetration Testing Course

## InfoSec Institute's Pre-Class Preparation

Signing up for InfoSec Institute's Web Application Penetration Testing Class means more than just attending a 5 day program. The program starts with the following pre-class preparation materials:

- Quality, targeted prep books shipped directly to you prior to start of class

## Post-Class Follow up and Support

Even after the course, we are here to provide support, including:

- Option to retake the class for up to a year (or until you obtain certification, whichever comes first)

## Career Path-Related Courses

The courses below are excellent follow-on classes, once the class has been completed:

- Advanced Ethical Hacking Boot Camp
- Reverse Engineering Training

## Testimonials

*"I think the amount of time was appropriate, the information was relevant and well-summarized, and the test reflected the study materials well. My instructor did a great job. My Training Sales Representative has also been very helpful and I am glad that he had taken a great interest to follow up during class to with the students. I am very pleased with InfoSec Institute and the entire process."*

Ryan Argomaniz  
AVP, Specialist - Info Security Engr  
Bank of America

## Testimonials - cont.

*"This class has been an outstanding experience for me. The instructor has a way of presenting material at a level that all can relate to. There is a lot of information with regards to this course, but he helps you to pinpoint your weak areas and turn them into to strengths. Thank you so much for this experience."*

Phyliss Moore  
Booz Allen Hamilton

## Corporate On-Site Discounts

Your Company will Save Big on group on-sites of **10 or more students**. Get training FAST on-site at your location for a fraction of the price of our public scheduled classes!

## InfoSec Institute's 100% Satisfaction & Human Capital Guarantee

InfoSec Institute is committed to you having the best possible training experience available. We offer students the opportunity to re-sit a Classroom-based or Live Online course tuition-free for up to one year or until the student obtains certification, whichever comes first.

## Our Training School At-A-Glance

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[www.infosecinstitute.com](http://www.infosecinstitute.com)

**866.471.0059**

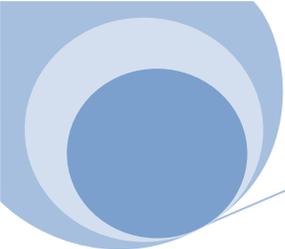
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# Web Application Penetration Testing Course

InfoSec Institute is the #1 accelerated IT training school in the world for good reason - our Expert Instructors are industry-recognized leaders, authors, and experts in their fields. We have mastered the accelerated method of training and certification and take pride in offering you the same quality training and certification programs that more than 45,000 satisfied clients have raved about.

InfoSec Institute's Expert Instructors possess strong consulting, implementation and training expertise. Our security professionals come from diverse roles including positions in consulting, product development, project management, information security and information technology. Our training team has supported public and private corporations, technology vendors, telecommunications companies and professional services organizations around the world.



## **InfoSec Institute**

### **Reverse Engineering Detailed 5 Day Course Syllabus**

#### **Day 1: Introduction to Reverse Engineering**

Day 1 focuses on the fundamental knowledge required for reverse engineering. This day is designed to build critical skills required to proceed further into deeper discussions on reversing. You will also train on special purpose reversing debuggers and disassemblers.

- Foundations of Reversing
- The Reversing Process
- Program Structure
- Common Code Constructs
- Identifying Variables & Lists
- Low level data management - Stacks, Heaps and Data sections
- Compiler representations
- Kernel vs. User memory
- Virtual Memory and Paging
- Reversing threaded applications
- Defining the Win32 API
- Win32 executable formats and image sections
- Discovering undocumented APIs in ntdll.dll
- Fundamentals of IDA Pro

#### **Day 2: Reverse Engineering**

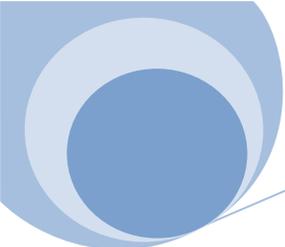
Day 2 encompasses a deep discussion with hands-on content for reversing Windows binaries. Key concepts such as identifying code paths, control functions and developing a general understanding of the code to be analyzed is covered.

- Reversing file formats
- Reversing encrypted file formats
- Understanding conditional branching statements
- Virtual machines and bytecode
- System vs. Code Level reversing
- Identifying variables
- Compilers and branch prediction
- Memory management
- Advanced uses of IDA Pro
- Using Ollydbg for runtime analysis
- Kernel mode debugging with SoftICE

#### **Day 3: Reverse Engineering - Malware**

Detailed coverage on reverse engineering malware. Focus is on live malware reversing using examples of viruses, Trojans and rootkits collected from the wild.

Using Ollydbg for runtime analysis of malware



Kernel mode debugging with SoftICE  
Dumping executables from memory with Dumpbin  
Obfuscation of file formats  
Understanding hashing functions  
Working with encrypted binaries  
Polymorphism  
Metamorphism  
Reversing UPX and other compression types  
Reversing a Trojan backdoor  
Understanding network communications

#### **Day 4: Reverse Engineering - Anti-reversing techniques**

Day 4 works with various anti-reversing techniques that software developers and malware writers put in place to make reverse engineering more difficult.

Basic anti-reversing strategies  
Symbol elimination  
IsDebuggerPresent API  
Single Step Interrupt Detection  
Softice Backdoor  
Exploits for IDA Pro  
IDA Pro obfuscation  
Code flow transformations  
Opaque Predicates  
Interleaving Code  
Restructuring Arrays  
Encoding variables  
Recursive traversal disassemblers  
Reversing .NET bytecode  
Legal issues and the DMCA  
CREA review

#### **Day 5: Binary Diffing & CREA Exam**

Using IDA to diff binaries  
Manual patch investigation  
Manual patch diffing  
Building fuzzers  
Using pei-mei  
Using other code coverage tools  
Protocol reversing

CREA Exam given on-site in afternoon

#### **Certified Reverse Engineering Analyst:**

In any hands on reverse engineer training course, it is important to have the opportunity to prove to current or potential employers that you have the skills you say you do. This course prepares you for the top reverse engineering certification in the industry, the CREA. The exam is given on-site, InfoSec Institute has achieved a 93% pass rate for this certification.



# CISSP Training

## About the Program

Securible, LLC is pleased to offer their proven, high quality training in the Certified Information Systems Security Professional (CISSP) Certification Preparation Program.

Security is a leading concern in every organization and the CISSP Certification is the premier security certification available today for information assurance professionals looking to

differentiate themselves among their colleagues. In fact, the DoD 8570 directive recognizes the CISSP as an important credential for the DoD workforce.

To help organizations stay up to speed on security issues and help security professionals achieve the CISSP certification, Securible, LLC has developed a proven, interactive CISSP training program. This pro-

gram focuses on helping security professionals understand the prevailing security issues, practices and trends, and helps them prepare for the CISSP exam.

The CISSP Training Program focuses on the 10 Common Body of Knowledge areas designated by (ISC)<sup>2</sup>, the international non-profit organization dedicated to security and the sponsor of the CISSP and SSCP certifications.

## Program Elements

### 10 Domains of Study

- Information Security and Risk Management
- Access Control
- Security Architecture and Design
- Physical (Environmental) Security
- Telecommunications and Network Security
- Cryptography
- Business Continuity and Disaster Recovery
- Legal, Regulations, Compliance and Investigations
- Application Security
- Operations Security

### Provided Resources

- 2 Student Workbooks
- 1 All-in-One CISSP textbook
- 1 set of 750+ flashcards
- 1000's of practice exam questions
- Catering for each night of class
- 1 highly qualified and proven instructor

### When an organization hires Securible here is what they get:

- Security solutions that address the organization's needs
- Cost effective solutions that are the right thing at the right time
- The quality guarantee of our work - we want satisfied customers and will do what it takes to keep the client satisfied

## Our Mission

At Securible, LLC we treat each customer as our best customer and listen to their needs so we can custom design solutions that achieve their goals. By doing this we consistently meet our own goal of **100% customer satisfaction.**



## Organization Details

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