Web App Testing Methodology & Web App Components

Nish Bhalla
Founder, Security Compass
About The Presenter

Nish Bhalla, Founder, Security Compass

- OWASP, Toronto Chapter Leader

- Over 10 years industry experience


- Speaker: "Reverse Engineering Conference" in Montreal, "HackInTheBox" in Malaysia and "ISC2 Security" Conference in Las Vegas, New York etc.

- Developer and Trainer of security courses at Security Compass and Foundstone.

- Bringing field work done for various fortune 500 and large software houses into class rooms.
Web Architecture

Server / Firewall Scans

HTTP Traffic

Port 80
Port 443

Web Client

Web Server

Application

Application

Database Server

Application Vulnerability

Firewall

Web Architecture
Attacking Web Servers

- Web Server Scans
  - Full TCP / UDP Port Scans
  - Web Server Scans
    - Nikto ([www.cirt.net](http://www.cirt.net))
    - Spike Web Proxy ([www.immunitysec.com](http://www.immunitysec.com))
    - Stealth Scanner ([www.nstalker.com](http://www.nstalker.com)) Free / Commercial
  - SSL Version (40/56/128 Bit)
  - Administrator Port
  - Reverse Proxy
  - Internal IP
  - Internal Port
  - Internal Server Name
  - Load Balancer
Attacking Web Applications

- Web Application: Background Information on the site
  - Identify Technologies used and Application Architecture
  - Mirror site
  - Sift through client side code (review comments and client side code)
  - Authenticate to the site and browse the site
  - Document all the links and pages on the site

- Web Applications: Threat Analysis
Attacking Web Applications Contd.

- Web Application: Begin Testing of the Web Application
  - Configuration Management (Web Server)
  - Backup Files (.bak /.inc/.gz /.zip)
  - Authentication (Type of Authentication / Preventing Brute Force)
  - Authorization (ACLs on Files / ACLs on Data / Cookies)
  - Session / Cookie Management
  - Input Validation (XSS/SQL Injection/ Field Overflows/Field Underflow)
  - Hidden Tags / Hidden Cookie variables / Hidden Pages
  - File Upload (File Type / Location of upload)
  - Buffer Overflows (ISAPI/Modules)
  - Cryptography
  - Sensitive Data

- Web Application: Search Engine Hacking
  - groups.google.com
  - yahoo.com
  - archive.org
Attacking Web Applications Contd.

- Authentication
- Authorization
- Session Management
- User Management
- Cryptography, PII, Critical Data
- Data Validation
- Data Handling
- Error & Exception
- Event Logging
Architecture Map

Server / Firewall Scans

Web Client

HTTP/S Traffic

Port 80
Port 443

Input Validation / Logging / Session Management / Authentication / Exception Management

Web Server

Application

Input Validation / Logging / Session Management / Authentication / Exception Management / Authorization

Application

Database Server

Application Vulnerability

Input Validation / Logging / Encrypted Critical Data / User Management / Authorization
Nishchal Bhalla

Founder, Security Compass
Nish Bhalla (Nish@securitycompass.com)
Toronto, Ontario, CANADA: 647.722.4883
Shrewsbury, New Jersey, USA: 201.390.9198