



Hacking-Lab Trainer

www.hacking-lab.com

Become a Hacking-Lab Trainer

Created: 16.4.2010

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What is this presentation about?



Hacking-Lab Remote provides a professional IT security lab infrastructure to universities and companies.

This presentation is designed for **Hacking-Lab Teachers** to learn and understand the provided lab infrastructure, wargame cases, procedures, tools, requirements for certain cases and solutions.

Agenda



- **Hacking-Lab Overview**
- **Hacking-Lab Teacher Tasks**
- **Self-Registration**
- **Client Requirements**

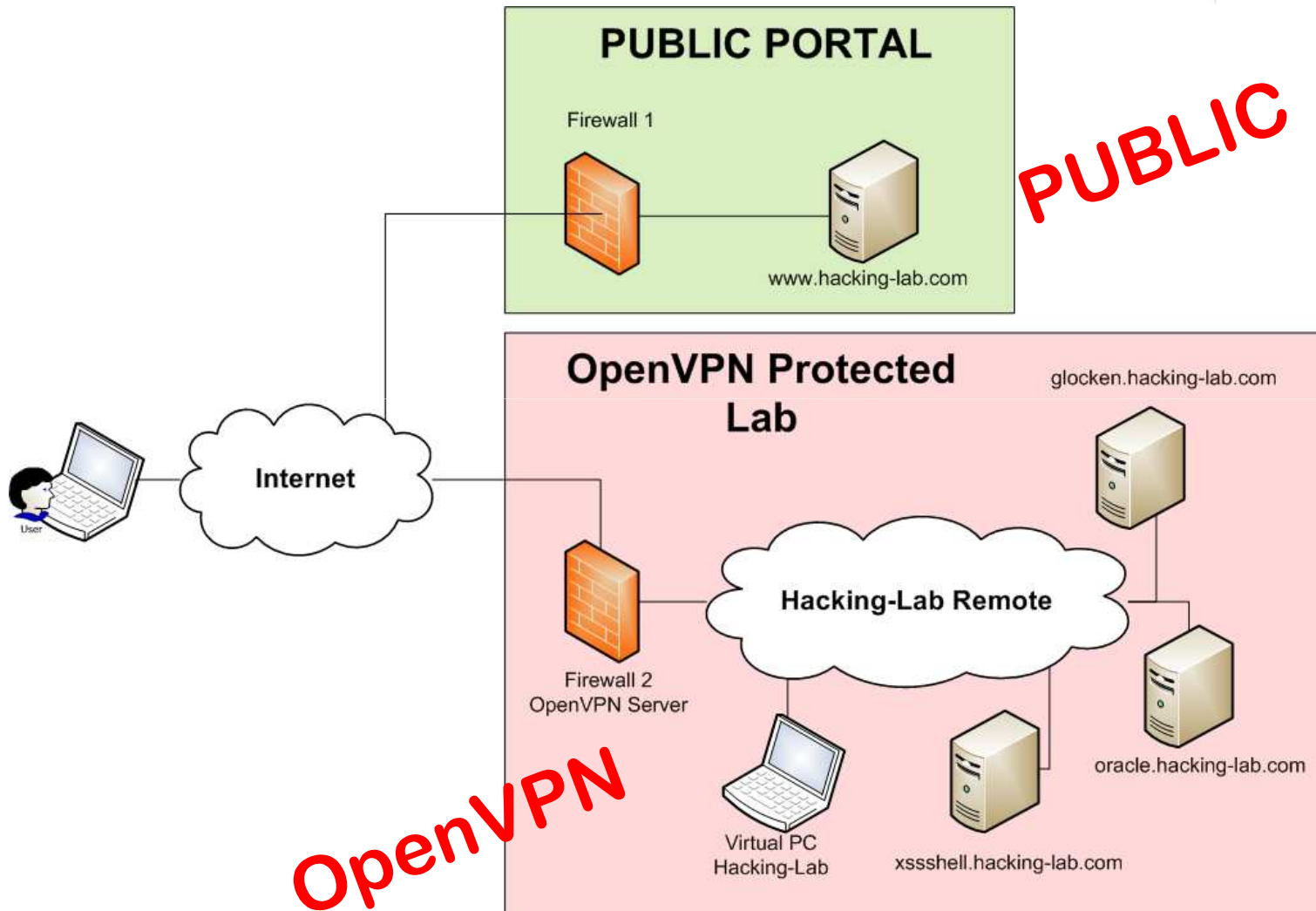


Hacking-Lab Overview

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Hacking-Lab Architecture



PORTAL: Hacking-Lab Terminology

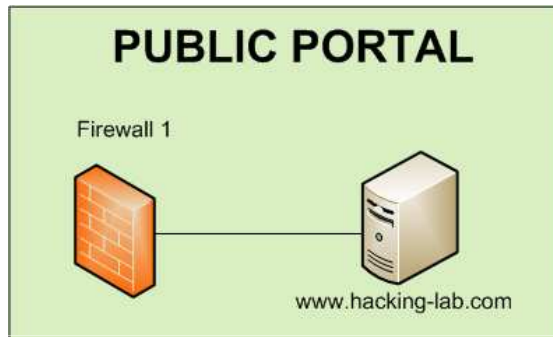


Item	Description
Hacking-Lab Event	<p>The Hacking-Lab „event“ has the following properties:</p> <ul style="list-style-type: none">• Start Date/Time• End Date/Time• Max number of participants• Users that are attached to the event (hacking-lab userID)• Modules that are attached to the event• Payment instructions (free, paypal, third party, other)
Hacking-Lab Case	<p>The Hacking-Lab „case“ has the following properties:</p> <ul style="list-style-type: none">• Title• Abstract• Category (web, network, forensic, ...)
Hacking-Lab Module	<p>The Hacking-Lab „module“ has the following properties:</p> <ul style="list-style-type: none">• Duration• HTML case exercise description• Level• Maxscore• Mapping to a Hacking-Lab case

PUBLIC PORTAL::Core Features



- www.hacking-lab.com is the **Public Portal**



- **Core Features of the Public Portal**

- ◆ Event Management (start time, end time, participants, costs)
- ◆ Wargame Case Management (case descriptions & solutions)
- ◆ User Management (self-registration, password reset, profile update)

PUBLIC PORTAL::Additional Services

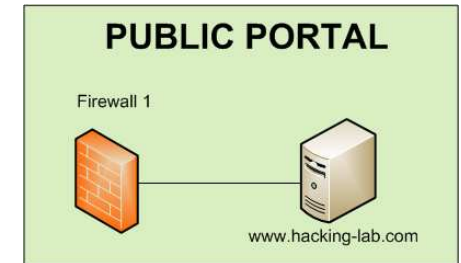


➤ Additional Features of the Public Portal

- ✦ Chat Service
- ✦ Nina Knowledge System
- ✦ Forum
- ✦ Vulnerability Monitoring Application
- ✦ Global Ranking Page
- ✦ Per Event Ranking Page

➤ Hacking-Lab Roles

- ✦ Anonymous
- ✦ Hacking-Lab User
- ✦ Hacking-Lab Teacher
- ✦ Hacking-Lab Admin



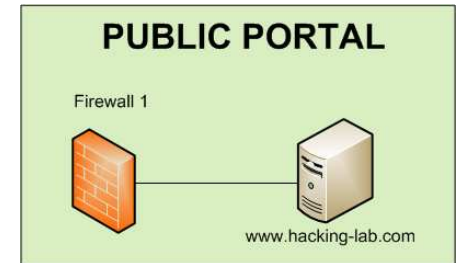
PUBLIC PORTAL::Roles and Privileges



- **Hacking-Lab Admin**
 - ★ Enterprise Admin of Hacking-Lab
 - ★ Software Development / Updates
 - ★ Event, Module, Case Management

- **Hacking-Lab Teacher**
 - ★ Read wargame cases
 - ★ Read wargame solutions
 - ★ Add / delete users of the event
 - ★ Solved solution application (give point to the participants)
 - ★ E-Mail form to contact all users of the own event

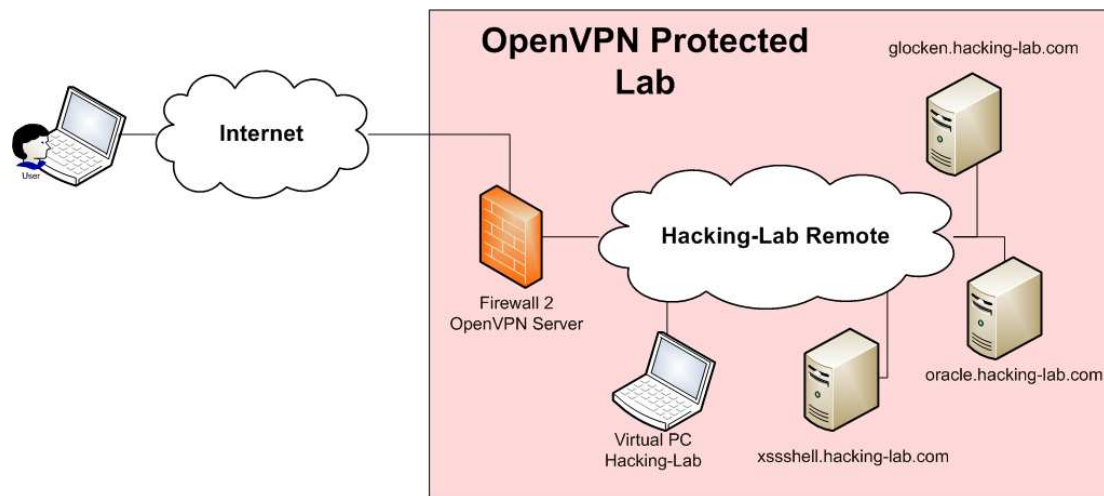
- **Hacking-Lab User**
 - ★ Read wargame cases
 - ★ Use the send solution form



Hacking-Lab Remote::OpenVPN



- The user/participant of Hacking-Lab Remote requires a valid OpenVPN setup and client certificates to access the lab environment
- Users can use the Hacking-Lab LiveCD as a standardized client platform, or use their own, private computer. The OpenVPN connection is mandatory. Once the client certificates get expired, the openvpn connection will be dropped.



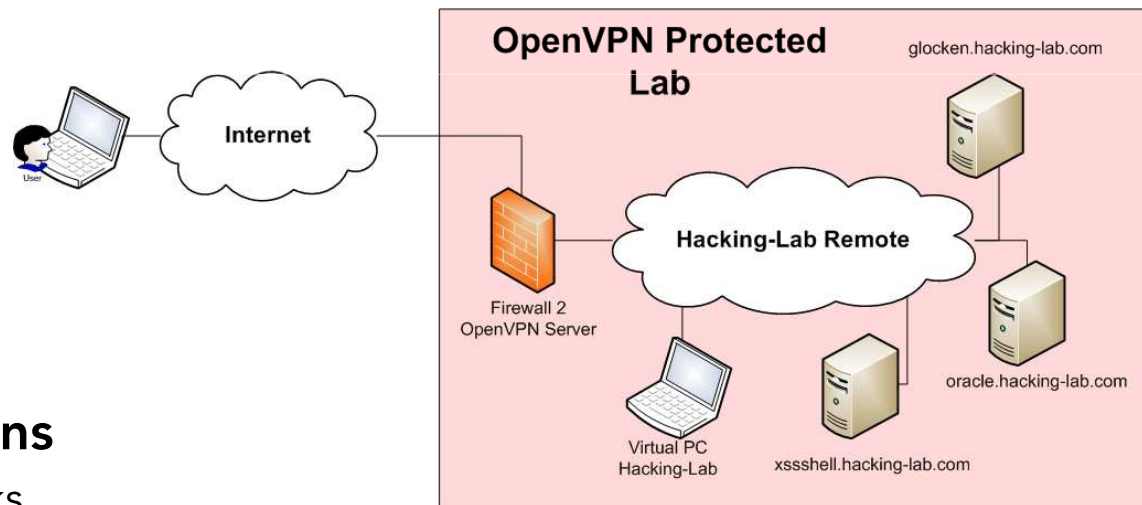
OpenVPN

Hacking-Lab Remote::Limitations



Please note, some lab cases cannot be solved from remote.

Hacking-Lab provides a Linux-based Virtual-PC that runs as VMWare Image within the Hacking-Lab Remote broadcast domain to address this limitation.



➤ Lab Limitations

- ◆ Layer 2 Attacks
- ◆ ARP Spoofing



Hacking-Lab Teacher Tasks

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The Hacking-Lab Teacher has the following skills:

- ✦ Understanding lab cases and solutions
- ✦ Giving points for solved wargames
- ✦ Adding or deleting users from the own Hacking-Lab event
- ✦ E-Mailing to all participants of the own event
- ✦ First level support
 - ✦ OpenVPN questions / Connectivity
 - ✦ Lab Cases



Giving Points to Participants

Hacking-Lab Teacher Functionality

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Giving Points – Step 1



super monster

HACKINGLAB

nina Knowledge Base

- Home
- About
- Hacking-Lab News
- Hacking-Lab Events
- Hacking-Lab Courses
- Hacking-Lab Remote
- Hacking-Lab Nina
- Hacking-Lab Forum
- Hacking-Lab Chat
- Hacking-Lab Ranking
- Hacking-Lab Download
- Login / Sign up

My Menu

- Edit My Profile
- Logout

CYBERSTORM

Event Cases

SBS-LiveCD-Template-Hacking-Lab-Remote

Press Icon to give points

Ranking	Name	Level	Duration		Solved by	Pt.
	2000 Glocken Emil Discovery	1	15	Details / Send Solution	1	★
	2100 Web Security: Username Enumeration	1	10	Details / Send Solution	0	★
	2101 Web Security: Bypassing Authorization	1	10	Details / Send Solution	0	★
	2102 Web Security: Sniffing Passwords	1	20	Details / Send Solution	0	★
	2202 Web Security: Internet Cafe	1	10	Details / Send Solution	0	★
	2202 Web Security: Predictable Session-ID	1	15	Details / Send Solution	0	★
	2202 Web Security: Secure Cookie Flag	1	30	Details / Send	0	★

Giving Points – Step 2



The screenshot shows a web interface for "HACKINGLAB" with a user profile for "super monster". The main content area is titled "Give Points for 2101 Web Security: Bypassing Authorization:". Below the title, there is a "User:" dropdown menu with "asar" selected. To the right of this dropdown is a red arrow pointing to the text "Give Points to User". Below the user dropdown is a "Points:" input field with a value of 5 and "(Max Score: 5)" to its right. Below the points field is a "Save" button. Below the "Save" button is the "Delete Points:" section, which has an empty dropdown menu. To the right of this dropdown is a red arrow pointing to the text "Delete Points for User". Below the dropdown is a "delete" button. At the bottom of the main content area is a "back to the event" link. The left sidebar contains a navigation menu with items like "Home", "About", "Hacking-Lab News", etc., and a "My Menu" section with "Edit My Profile" and "Logout". The bottom of the page features the "CYBERSTORM" logo.

Giving Points – Step 3



Max Score

- ✦ This is the maximum score that is defined for this case
- ✦ Give full points if the participants solved it alone / independent
- ✦ Reduce score if the participant required special help

Delete Points

- ✦ Delete points if Hacking-Lab teacher added points on mistake and enter the correct value afterwards

Ranking

- ✦ Giving points changes the global ranking, per event ranking and the personal skill level

Giving Points – Step 4

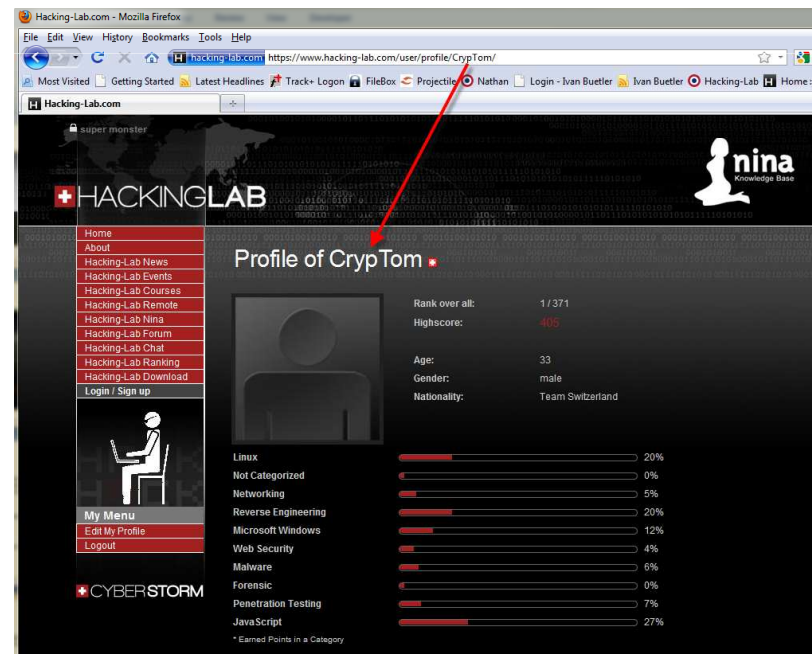


Personal Skill Level

- ✦ Depends on what cases were solved
- ✦ Depends on how many points were received

Skill Level per User (if authenticated in Hacking-Lab)

- ✦ Example: CryptTom





Hacking-Lab.com - Mozilla Firefox

File Edit View History Bookmarks Tools Help

hacking-lab.com https://www.hacking-lab.com/user/profile/CrypTom/

Most Visited Getting Started Latest Headlines Track+ Logon FileBox Projectile Nathan Login - Ivan Buetler Ivan Buetler Hacking-Lab Home: Ha

Hacking-Lab.com

super monster

HACKINGLAB

nina Knowledge Base

Home
About
Hacking-Lab News
Hacking-Lab Events
Hacking-Lab Courses
Hacking-Lab Remote
Hacking-Lab Nina
Hacking-Lab Forum
Hacking-Lab Chat
Hacking-Lab Ranking
Hacking-Lab Download
Login / Sign up

Profile of CrypTom

Rank over all: 1 / 371
Highscore: 405
Age: 33
Gender: male
Nationality: Team Switzerland

Linux 20%
Not Categorized 0%
Networking 5%
Reverse Engineering 20%
Microsoft Windows 12%
Web Security 4%
Malware 6%
Forensic 0%
Penetration Testing 7%
JavaScript 27%

* Earned Points in a Category

My Menu
Edit My Profile
Logout

CYBERSTORM

SS
RITY



Mail to Participants

Hacking-Lab Teacher Functionality

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Send Mail



Event Cases

LiveCD Beta-Tester

[Ranking](#) [Manage Users](#) [Send Mail](#) [Solution Management](#)

Send Mail Form

	Name	Level	Duration	Details	Status	Solved by	Pt.	Solution	SBS Live CD	ASL Master Windows	ASL Master Linux
	2310 Web Security: SQL-Injection Login Form	1	15			27					
	2310 Web Security: SQL-Injection with UNION	1	15			16					

HACKINGLAB

HOME NINA FORUM

- Home
- About
- Hacking-Lab News
- Hacking-Lab Events
- Hacking-Lab Courses
- Hacking-Lab Remote
- Hacking-Lab LiveCD
- Hacking-Lab Chat
- Hacking-Lab Ranking
- Hacking-Lab Services
- Hacking-Lab Download
- Login / Sign up

My Menu
[Edit My Profile](#)

Send message to event participants

Subject:

Message:

Message for all participants of this specific event



View Solution

Hacking-Lab Teacher Functionality

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<missing: howto get the solution per case>



Add Users to Event

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Adding Users to an Event



Automatic Registration: Mapping User to the event

- ✦ Hacking-Lab Admin generates a special crafted registration URL
- ✦ User presses the special crafted registration URL

Manual Registration: Mapping User to the event

- ✦ Hacking-Lab teacher maps the user manually

Recommended Adding

- ✦ Adding (existing or new hacking-lab) users can be done by sending the special crafted Sign-Up and Registration URL to the participants.
 - ✦ If the user has already an account in Hacking-Lab?
 - ✦ User clicks on the URL
 - ✦ User needs to login and is then added automatically
 - ✦ If the user has not signed-up a Hacking-Lab account yet
 - ✦ User clicks on the URL
 - ✦ User sign-ups a new Hacking-Lab account
 - ✦ Then, user is automatically mapped to the event

Self-Registration (User View)



Sign-up a new Hacking-Lab Account

Nickname (*) Will be visible for others

Email (*)

Confirm Email (*)

Country (*)

Your Nationality

Your Gender

Your Age

Fields marked with (*) are mandatory
Hacking-Lab does not sell or disclose your information

Login directly (Existing Hacking-Lab Account)

Your e-mail:

Your Password:

**New
Accounts**

**Users with
an existing
Account**

Adding Users to an Event::Teacher



<missing: how the teacher adds / deletes the user manually>



Self-Registration

Self-Service by Hacking-Lab Users

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Self-Registration



Hacking-Lab Users sign-up a free Hacking-Lab account procedure

The creation of a Hacking-Lab account includes the following steps

- 1. User fills-out the registration form**
- 2. User receives the confirmation mail with the verification link and the initial password**
- 3. User must click on the verification link and authenticates with the given initial password (First Authentication)**
- 4. User must change the initial password**

Step 1: Registration Form



Create a new account (Nickname is visible in the future)

A screenshot of the Hacking-Lab registration form. The form is titled "Create a new account" and includes fields for Nickname, Your Email, Confirm Your Email, Your Nationality, Your Gender, and Your Age. A "Register Now!" button is at the bottom. Red arrows point to the Nickname, Your Email, and Confirm Your Email fields, with the text "Mandatory Values" next to them. Another red arrow points to the Nickname field with the text "Note: Nickname should be a random name". The form also includes a "Register" button in the left sidebar and a "CYBERSTORM" logo at the bottom left. The background of the form is dark with binary code patterns.

Anonymous User

HACKINGLAB

Home
About
Hacking-Lab News
Hacking-Lab Events
Hacking-Lab Courses
Hacking-Lab Remote
Hacking-Lab Nina
Hacking-Lab Forum
Hacking-Lab Chat
Hacking-Lab Ranking
Hacking-Lab Download
Login / Sign up
Register

Don't have an account?
Create a free account now!

nina
Knowledge Base

Create a new account

Nickname: Will be visible for others

Your Email:

Confirm Your Email:

Your Nationality:

Your Gender:

Your Age: DD MM YYYY

Hacking-Lab does not sell or disclose your information

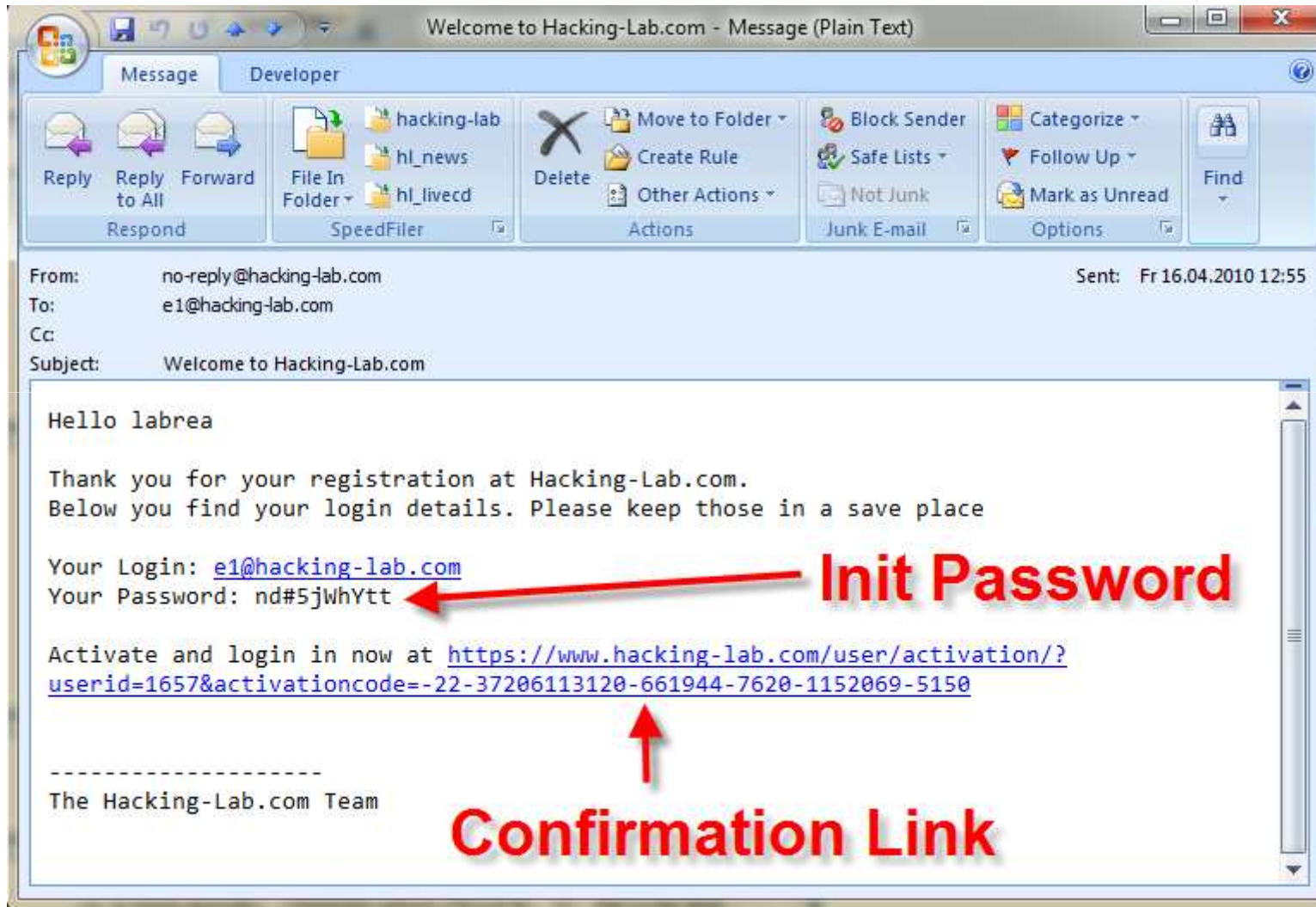
Mandatory Values

Note: Nickname should be a random name

CYBERSTORM

After „Register Now!“ a confirmation mail is sent to the E-Mail.

Step 2: Confirmation Link



Step 3: First Authentication



After the user has clicked on the URL in the confirmation mail

A screenshot of the Hacking-Lab website. The page has a dark theme with a navigation menu on the left. The main content area displays a message: "Activation successful!". Below this is a "Login" section with input fields for "Your e-mail:" (containing "e1@hacking-lab.com") and "Your Password:" (containing "*****"), and a "Login »" button. Red arrows and text annotations highlight key elements: "Activation message" points to the success message; "User E-Mail" points to the email input field; and "Init Password out of Mail" points to the password input field. The website header includes "Anonymous User", "HACKINGLAB", and "CYBERSTORM". The navigation menu lists: Home, About, Hacking-Lab News, Hacking-Lab Events, Hacking-Lab Courses, Hacking-Lab Remote, Hacking-Lab Nina, Hacking-Lab Forum, Hacking-Lab Chat, Hacking-Lab Ranking, Hacking-Lab Download, and Login / Sign up.

Step 4: Change Password



Change Password Dialog after Registration

A screenshot of the Hacking-Lab website's password change interface. The page has a dark theme with a navigation menu on the left. The main content area is titled "Change Password Please" and contains three input fields for "Old Password (See E-Mail)", "New Password:", and "Confirm New Password:". A "Login »" button is at the bottom. Two red arrows point from the text "Init Password from Mail" to the first input field, and from "New Password" to the second input field. The "nina Knowledge Base" logo is in the top right corner.

labrea

HACKINGLAB

nina Knowledge Base

Change Password Please

Old Password (See E-Mail)

New Password:

Confirm New Password:

Login »

Init Password from Mail

New Password



Hacking-Lab Remote Client

LiveCD Project

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Hacking-Lab Remote Clients



The Hacking-Lab Cases can be solved with your own computer or with the Hacking-Lab LiveCD

The LiveCD is a good starting point

- ✦ OpenVPN is installed and configured
- ✦ Web Inspection Proxies installed and configured
- ✦ Firefox Extensions installed and configured
- ✦ DokuWiki Help Page

The LiveCD is Debain Kubuntu based

- ✦ KDE desktop

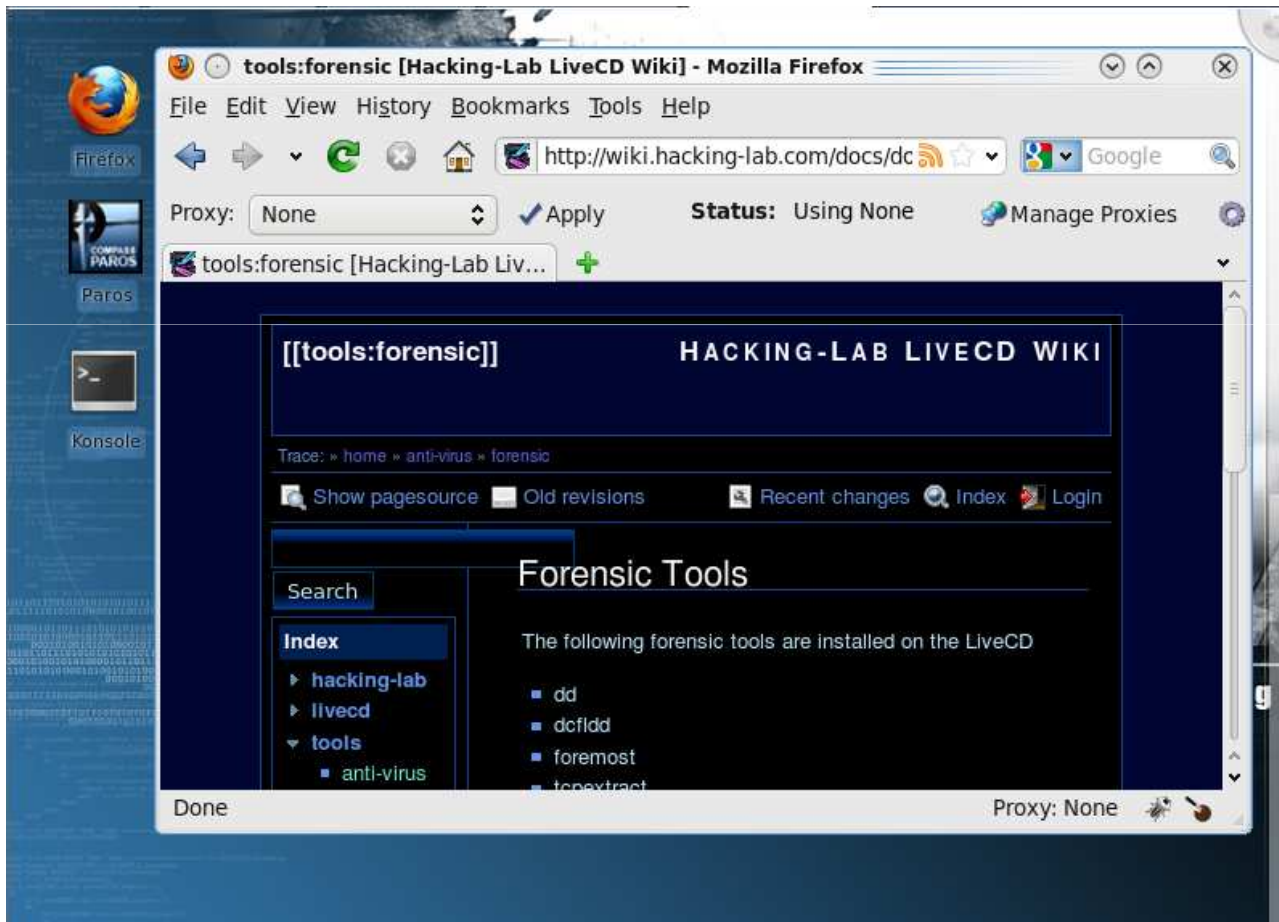
LiveCD: Screenshot



Download the ISO image & use a standardized client environment



LiveCD Wiki: How to use the CD – Tools - Procedures





Hacking-Lab for Participants

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Hacking-Lab Remote: User View



Once the User is authenticated and in case of a registered, running event -> Click on „**Hacking-Lab Events**“ if you want to go to the Case Overview Page

The screenshot shows the user interface of the Hacking-Lab Remote application. At the top, there is a navigation bar with the user name "super monster" on the left, the "HACKINGLAB" logo in the center, and the "nina Knowledge Base" logo on the right. Below the navigation bar is a sidebar menu with the following items: Home, About, Hacking-Lab News, Hacking-Lab Events (highlighted with a red arrow), Hacking-Lab Courses, Hacking-Lab Remote, Hacking-Lab Nina, Hacking-Lab Forum, Hacking-Lab Chat, Hacking-Lab Ranking, Hacking-Lab Download, and Login / Sign up. Below the menu is a "My Menu" section with "Edit My Profile" and "Logout" options. The main content area features a header "Security for Professionals" and a red callout box that says "Click here for the Case Overview". Below this is a welcome message: "Welcome @ Hacking-Lab. We provide a Remote Security Lab for the professional IT security education." The main content area also features a large banner for "Swiss Cyber Storm" with details about briefings and wargames. The banner includes the text: "12./13. May 2011 - Hacking-Lab Briefings Showcasing the latest research and trends in information security by renowned security researchers and professionals." and "14./15. May 2011 - Hacking-Lab Wargames & CTF Be part of the SCS III „Capture the Flag“ exercise in which you have to search for security-relevant bugs in custom and public software." The banner also includes the website URL "www.hacking-lab.com" and the COMPASS SECURITY logo.

Hacking-Lab Remote: User View



My Running Security Events

- Example: list of events the user „super monster“ is registered/subscribed for

The screenshot shows the user interface for 'super monster' (ibuetler@hsr.ch). The page title is 'Hello super monster (ibuetler@hsr.ch)'. The main content area is titled 'My Running Security Events' and contains a table with the following data:

Title	Location	Cases	
Hacking 'Hacking-Lab'	Internet	Details	227
SBS-LiveCD-Template-Hacking-Lab-Remote		Details	3

A red arrow points to the 'Details' link in the second row of the table. Below the table, there are sections for 'My registered Online Wargames' (with the message 'You have no upcoming Wargames') and 'My registered Security Events' (with the message 'You have no upcoming events').

Click on "Details" now

Hacking-Lab Remote: User View



Case Overview Page for a specific Event

- ✦ List of cases that are mapped to the specific event

super monster

HACKINGLAB

nina Knowledge Base

Event Cases

SBS-LiveCD-Template-Hacking-Lab-Remote

Ranking

Name	Level	Duration	Solved by
2000 Glocken Emul Discovery	1	15	1
2100 Web Security: Username Enumeration	1	10	0
2101 Web Security: Bypassing Authorization	1	10	0
2102 Web Security: Sniffing Passwords	1	20	0
2202 Web Security: Internet Cafe	1	10	0

Lab descriptions (details)

Hacking-Lab Remote: User View



Case Descriptions / Wargame Instructions

- ✦ Description about the exercise – the goal - requirements

Screenshot of our Vulnerable Web Application

The screenshot shows a web application interface with a blue sidebar on the left containing navigation links: Home, News, Product Search, Product Search Webservice, Company Profile, Contact, My Account, Members Area, Retailers Area, Shopping Cart, and Pay. The main content area is titled "Products" and displays a grid of product cards. Each card includes a product image, name, details (like size), price, a quantity input field, and an "Order" button. The products shown are:

Name	Details	Price
Mootathaler Treichel	Size 9	500.0
Mootathaler Treichel	Size 15	800.0
Froschmaul Treichel	Size 15	800.0
Froschmaul Treichel (painted)	Size 15	1350.0
Froschmaul Treichel (ornate)	Size 15	1800.0
Schwingerkoenig Treichel	Size 16	2000.0
Wedding Bell	Size 8	300.0
Linggi Treichel	Size 10	400.0

Requirements

- Web Browser
- Connectivity to glocken.hacking-lab.com
- Username: **hacker10** or hacker11 or hacker12 ... until hacker40
- Password: **compass**

Hacking-Lab Remote: User View



Send Solution

The screenshot shows the user interface of the Hacking-Lab Remote application. The top navigation bar includes the user name 'super monster', the 'HACKINGLAB' logo, and the 'nina Knowledge Base' logo. A sidebar menu on the left lists various navigation options such as Home, About, Hacking-Lab News, Hacking-Lab Events, Hacking-Lab Courses, Hacking-Lab Remote, Hacking-Lab Nina, Hacking-Lab Forum, Hacking-Lab Chat, Hacking-Lab Ranking, Hacking-Lab Download, and Login / Sign up. The main content area displays 'Event Cases' for 'SBS-LiveCD-Template-Hacking-Lab-Remote'. A table lists several cases with columns for Name, Level, Duration, and Solved by. A red arrow points to the 'Details / Send Solution' link in the first row of the table.

Name	Level	Duration	Solved by
2000 Glocken Emil Discovery	1	15	1
2100 Web Security: Username Enumeration	1	10	0
2101 Web Security: Bypassing Authorization	1	10	0
2102 Web Security: Sniffing Passwords	1	20	0

Hacking-Lab Remote: User View



Send Solution (per case)

- ✦ Submitting the form generates an e-mail to the Hacking-Lab teacher

User must explain the solution to get points

super monster

HACKINGLAB

- Home
- About
- Hacking-Lab News
- Hacking-Lab Events
- Hacking-Lab Courses
- Hacking-Lab Remote
- Hacking-Lab Nina
- Hacking-Lab Forum
- Hacking-Lab Chat
- Hacking-Lab Ranking
- Hacking-Lab Download
- Login / Sign up

My Menu

- Edit My Profile
- Logout

Send Solution

Your solutiontext:

type here the solution text of a case!

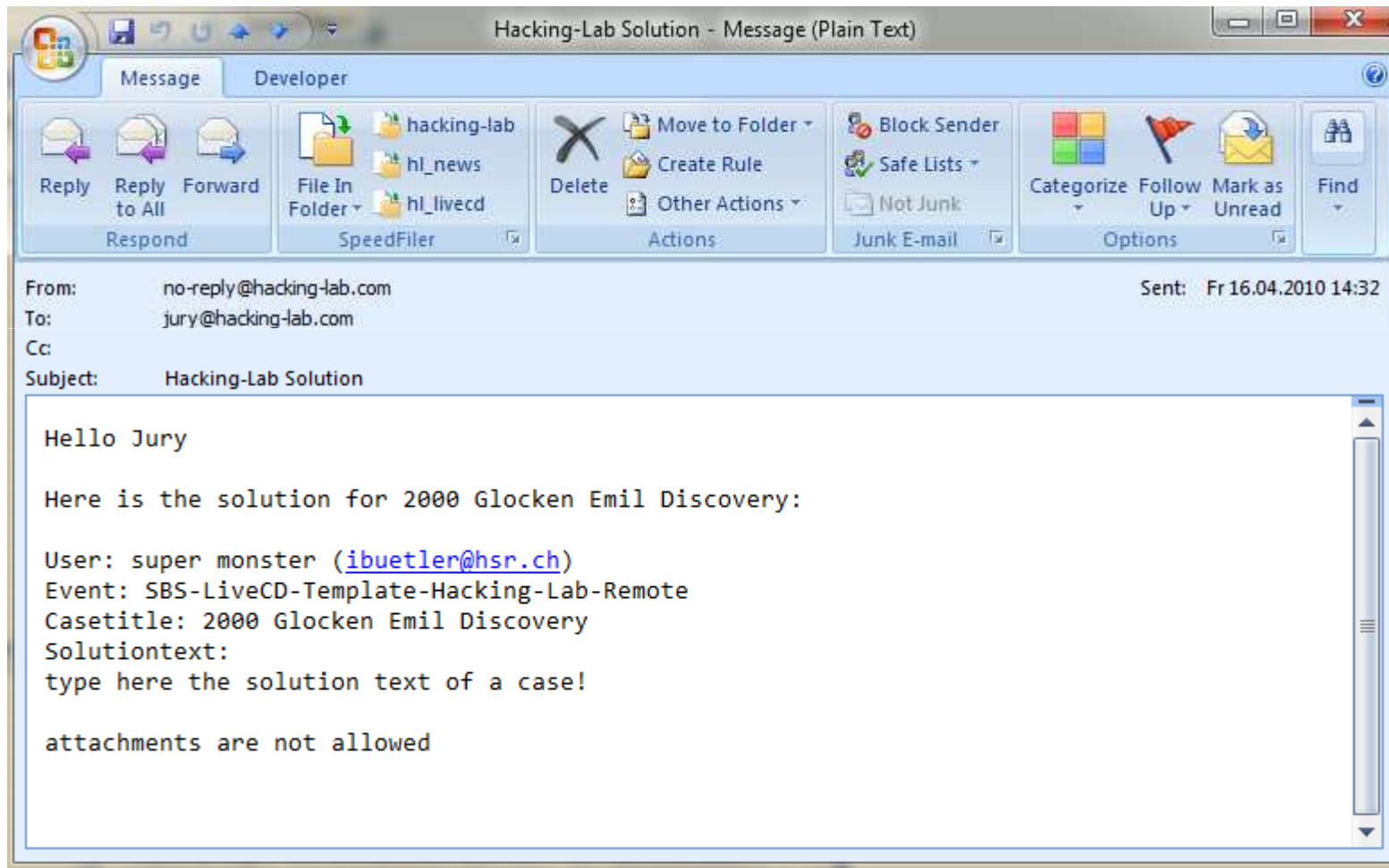
attachments are not allowed

Send

Hacking-Lab Remote: Teacher



Hacking-Lab Teacher receives the solution mail





Thank you for Reading

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