Security Lab – Introduction to Hacking-Lab

1 Introduction

The Hacking-Lab is an online ethical hacking, computer network and security training and challenge platform. Such infrastructures are also called Cyber Range.

ZHAW has its own entry point/dashboard, which you can access here:

`zhaw.hacking-lab.com`

Apart from event-, course management (enrolment, grading, …) and many other features, it provides access to (vulnerable) services, applications, and (virtual) devices that are required to build and run attack- and defence exercises. There are two main ways how these resources can be accessed and how they are deployed.

Access:

- Over the Internet: You have to know the URL to the resource and be logged in.
- Over VPN: Required for some task types. Here, you have lower-layer access to things and can also, for example, scan the services that are running in that part of the Hacking-Lab.

Deployment:

- Personalized: You have your own version of the resource. One way this is achieved is by deploying a container with said resource and providing information (e.g., URL) how to access it.
- Shared: This is a shared resource. This usually means that others will be able to attack / use it too. This is, for example, the case for some services that run and are exposed in the VPN.

The reason why such cyber ranges exist is that using ethical hacking tools is unproblematic in these environments; if you are logged into their VPN and make a mistake, for example you mistype an IP address and send an exploit to the wrong target, or if you start scanning the whole network instead of the designated target, it doesn't matter that much. It is a playground to do (almost) anything you want. The Terms of Use, to which you must agree when creating an account on Hacking-Lab tell you about the exceptions. The most important ones are described in Section 5 – Rules of online Conduct and Section 12 – User Solutions. Section 12 states that you are not allowed to publish solutions or hints to the challenges in the Hacking-Lab.

2 Goals

This Lab has two goals. First, you get to know the Hacking-Lab and its Kali Linux based virtual machine (Hacking-Lab Live CD). While we won't use the Hacking-Lab extensively, the you will use the VM for several of the labs. Second, it tests and refreshes (some of) your hacking-skills from SWS1.

3 Getting ready!

Please perform the following steps to complete this lab.

Step 1	**Hacking-Lab Account** Create a Hacking-Lab account if you don't have one yet. Go to: https://zhaw.hacking-lab.com/ and click 'Register'. Check and accept the Terms of Use and click on the link in the email you get from Hacking-Lab to confirm your email address. Login to your account.

Step 2	**Hacking-Lab first Steps and VM image**
	Get the Hacking-Lab LiveCD image **from the USB stick from your tutor** or download it from here:
	https://drive.switch.ch/index.php/s/UPQRwdojXp3lOyU
	In the menu, choose 'Events' and select the event "Start using Hacking-Lab". And do the following Tasks. **Important: When told to download the image, do not do this but use the image from the step before.**
	- Installation
	  o HL LiveCD: Installation
	  o HL LiveCD: Keyboard Layout
	- Hacking-Lab LiveCD
	  o Option 1: HL LiveCD: ZAP Inspection Proxy
	  o Option 2: HL LiveCD: Burp Inspection Proxy
	With these steps concluded, you have a good basis-vm image for inspecting/analyzing/attacking web-applications and to apply your skills/know-how from SWS1!

Step 3	**Unlocking the SWS2 FS2023 Event** Next, go to back to the 'Events' page click on REDEEM ACCESS TOKEN at the top of the page. Enter the token below. You are NOT ALLOWED to share that token with anyone outside of the SWS2 course. SHV4D-DUPBL-OUGK4-2R7NL You should now have access to the SWS2 – FS2023 Event.
Step 4	**Hack!** Choose 'Lab 1 – Warm-Up' and solve tasks until you think you have obtained at least 300 points for that event. Each task gives 100 points but note that some of the tasks are in challenge mode with no hints and some of the tasks are in 'Optional Steps' mode where you can reveal (1) the different steps involved and (2) the details of each step. Revealing something always costs you a share of the points for this task. It tells you how much (in percent) and asks you to confirm that you want to reveal that step. Also note that the 'Optional Steps' tasks will always give at least 40 points even when all steps were revealed.

Lab Points

For **2 Lab Points** you must have completed Step 4 and obtained at least 300 points.