



## Project Description and Guidelines

### Introduction

The primary requirement is that your project should go through the main phases of Ethical hacking and Penetration Testing including:

- Reconnaissance
- Enumeration & Vulnerability Scanning
- Attack and Penetration
- Post-Exploitation
- Reporting and Documentation
- Remediation Testing/Countermeasures

The students are free to choose any project idea which might be interesting to them. If the student is not sure, a list of pre-defined ideas is provided to choose from.

### Guidelines:

There are four concrete phases for the project, as follows:

#### 1. *Group Formation*

Form a 2-3 team and submit the team name and members list by the group formation deadline.

#### 2. *Project Proposal*

By the proposal deadline, you must submit a proposal describing:

- Your team NAME and members list
- Literature review consists of a summary of at least one research paper from each team member related to the chosen topic/attack.
- The assumed scenario (problem definition).
- What is (are) the tool(s) are you proposing to use.
- A timeline illustrates the work distribution among the team members of the project period.

#### 3. *Project Implementation*

- Show the scanning process

- State the vulnerability.
- Implement the attack.
- Illustrate the impact.
- Suggest Prevention/Detection Techniques [Countermeasures].

#### 4. Deliverables

- Project Presentation
- Technical Report
- Live Demo
- Recorded Demo (Video)
- Poster

### Grade Distribution

Task	Grade
Project Proposal	1.5 pts
Presentation +Video	2.0 pts
Technical Part (All phases): <ul style="list-style-type: none"> <li>• Reconnaissance</li> <li>• Enumeration &amp; Vulnerability Scanning</li> <li>• Attack and Penetration</li> <li>• Post-Exploitation</li> </ul>	4 pts
Report (All phases should be included)	1.5 pts

### Project Timetable

Phase	Submission Date
Group Formation	Week 1
Project Proposal	Week 6
Project Implementation (Reconnaissance, Enumeration & Vulnerability Scanning)	Week 8
Project Implementation (Attack and Penetration)	Week 15
Project Implementation (Post-Exploitation, Reporting)	Week 16

and Documentation, Remediation Testing/Countermeasures)	
Deliverables	Week 17

## Pre-defined Starting Points

We provide some starting points if you want a pre-defined ideas. We stress on running the tests in **virtual labs** to avoid any damages to the real devices and any illegal implications as well.

The suggested virtual labs are

1. **SEED**<sub>LABS</sub> [[https://seedsecuritylabs.org/Labs\\_16.04/index.html](https://seedsecuritylabs.org/Labs_16.04/index.html)]
2. <https://github.com/bitofsecurity/legal-hacking-websites>

**This is the GitHub repository that list websites to practice and learn hacking legally.**

3. Following are some other good resources to begin with:

<https://pranx.com/hacker/>

<https://www.khanacademy.org/computer-programming/hacker-simulator/5865183159435264>

<https://tryhackme.com/>

<https://www.hackthebox.com/>

<https://www.hackthissite.org/>

**\*\*The students are free to choose other virtual environments considering the following areas as their major domains:**

- Network Security
- System Security
- Web Security
- Mobile Security
- Cloud Security
- IoT security