🛡️ Ethical Phishing Simulation Platform - Project Report

# 1️⃣ Overview

The Ethical Phishing Simulation Platform is a Python Flask-based project designed to simulate phishing attacks in a controlled, ethical environment for training and awareness purposes within organizations and cybersecurity labs. It aims to increase user resilience against phishing attacks by conducting safe, trackable phishing simulations.

# 2️⃣ Objectives

- Build an ethical phishing simulation environment.  
- Allow administrators to send phishing simulation emails to test user awareness.  
- Track user interactions safely without collecting sensitive data.  
- Provide instant awareness training upon user interaction with phishing simulations.  
- Generate reports for analysis and awareness improvement planning.

# 3️⃣ Features

✅ Web interface to send phishing simulation emails.  
✅ Generation of unique tracked phishing URLs per user.  
✅ Tracking of user clicks on phishing simulation links.  
✅ Displaying an educational landing page upon click.  
✅ Report generation for reviewing user interactions.  
✅ Lightweight, Python Flask-based implementation for easy deployment in labs.

# 4️⃣ Architecture

The platform uses a Flask backend with an SQLite database for tracking user data. SMTP integration is used for sending phishing simulation emails, and a simple HTML interface is provided for management and reporting.

# 5️⃣ Lab Setup

- Python 3 environment with Flask installed.  
- SMTP credentials configured within the application.  
- Run the application using `python3 ethical\_phishing\_platform.py`.  
- Access the interface via `http://localhost:5000` to send simulations.  
- Access reports via `http://localhost:5000/report`.

# 6️⃣ Results

The platform successfully sends phishing simulation emails with trackable links to target users. When a user clicks on the simulated phishing link, the system records the click and presents an educational landing page, reminding the user of safe email practices. Reports generated provide insights into user interactions for follow-up training.

# 7️⃣ Recommendations

- Utilize the platform for regular phishing simulations to build user awareness.  
- Review reports to identify high-risk users and plan targeted training.  
- Extend the platform to include additional phishing templates and dashboards.  
- Integrate with your organization's awareness programs and compliance initiatives.

# 8️⃣ Future Enhancements

- Multi-template and multi-campaign management.  
- Role-based access control for multi-user operation.  
- Advanced dashboards with charts and export options.  
- SIEM integration for alerting and logging.  
- Dockerization for lab and cloud deployment.

# 9️⃣ Disclaimer

This platform is for ethical, authorized, and controlled phishing simulations only. It should only be used with explicit permission within your organization or in your training environment while ensuring compliance with applicable laws.