

CAPSTONE PROJECT FPT UNIVERSITY

RESEARCH AND BUILD TOOLS TO SUPPORT THE NETWORK
SYSTEM PENETRATION TESTING PROCESS



GSP24IA07

#PennetTeam

Project Information

Supervisor :

MR. Hồ Hải



Members :

Nguyen Dinh Quan - SE151007

Tran Minh Nhat - SE150956

Nguyen Minh Tam - SE151041

Nguyen Thanh Nhan - SE151405



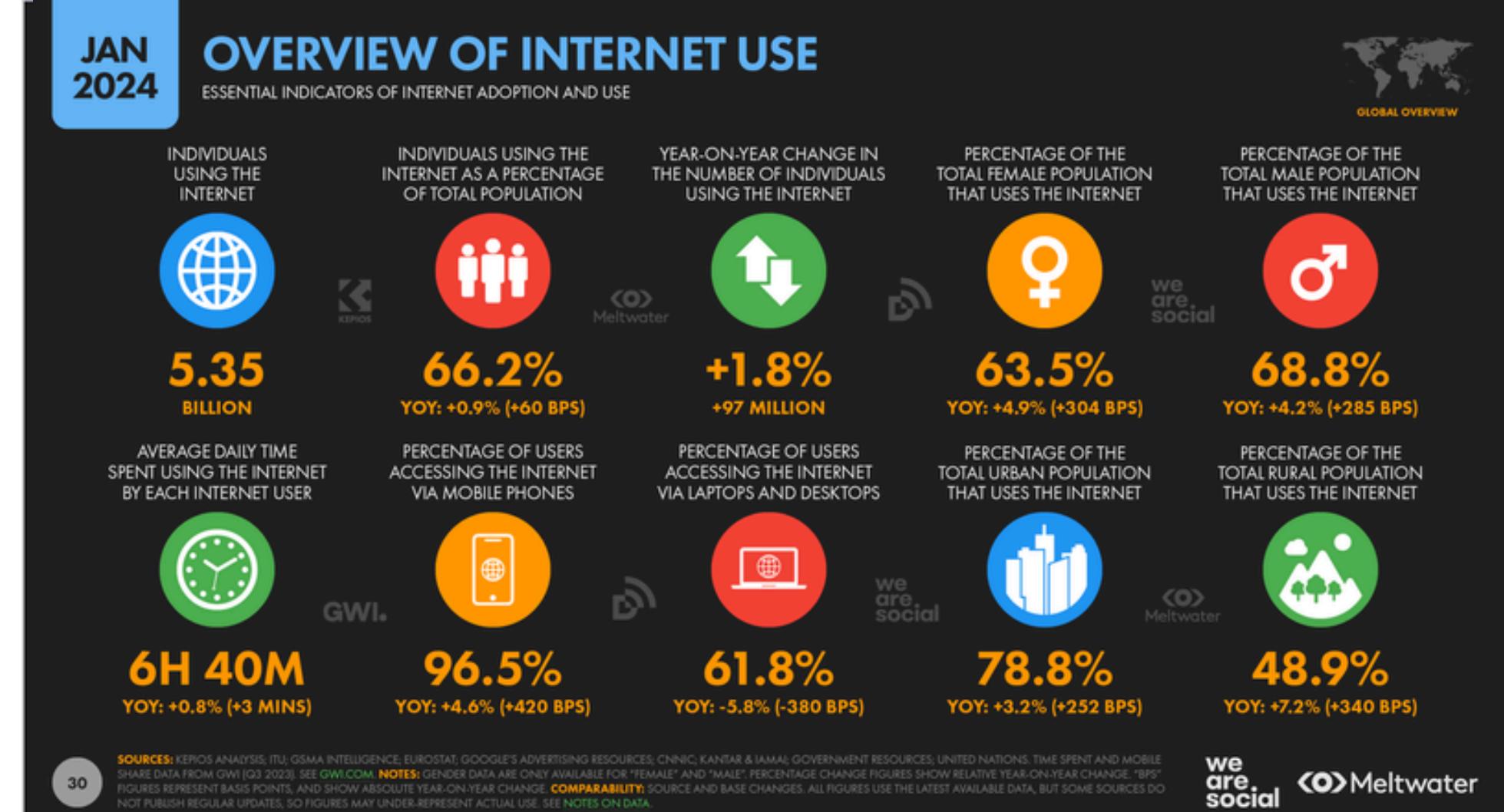
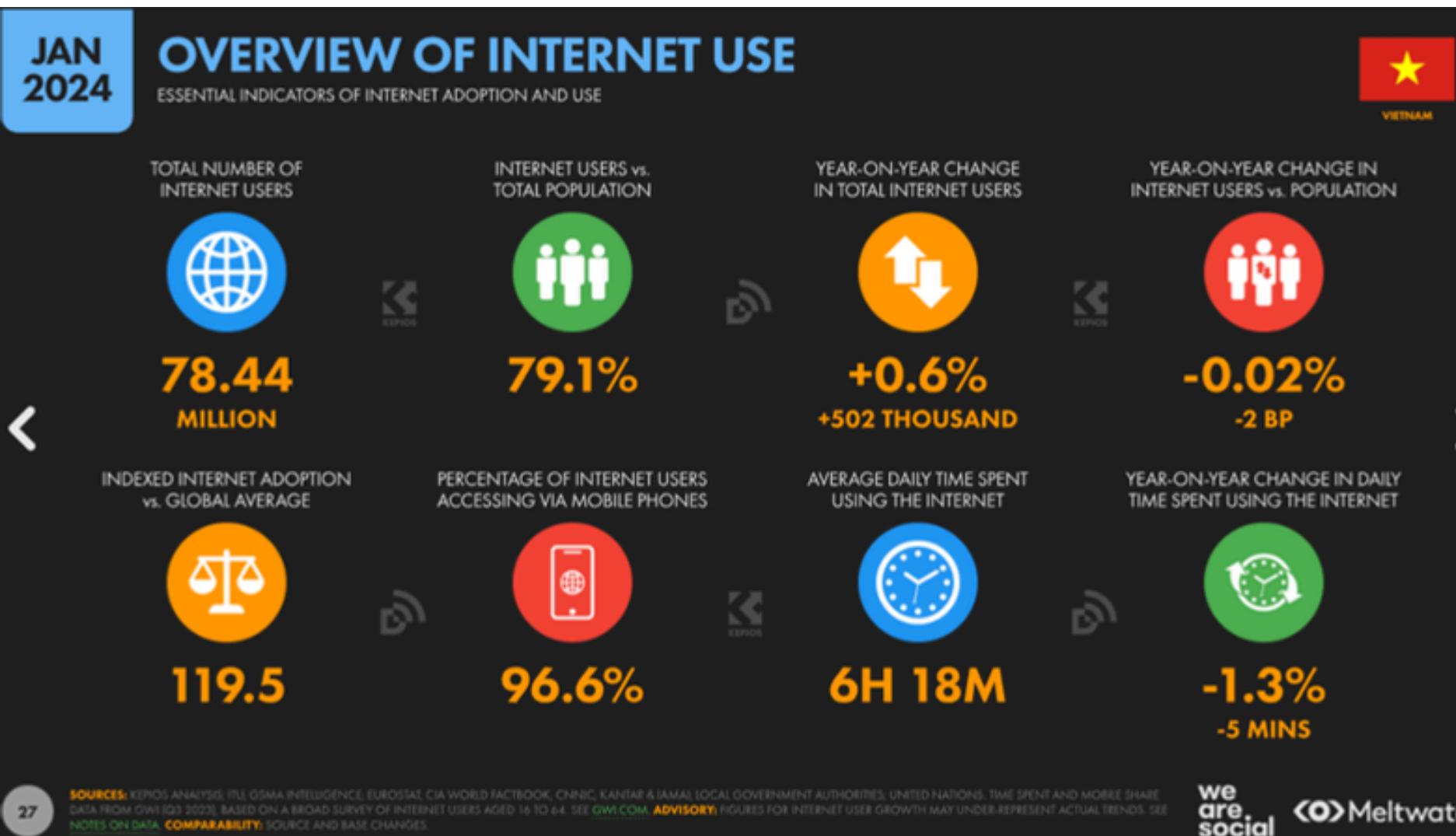
- 1. INTRODUCTION**
- 2. PROBLEM STATEMENT**
- 3. SOLUTION**
- 4. DEMO**
- 5. SUMMARY**
- 6. DEVELOPMENT STRATEGY**
- 7. Q&A**

1 Introduction

1. Introduction

Research based on data from
<https://datareportal.com>

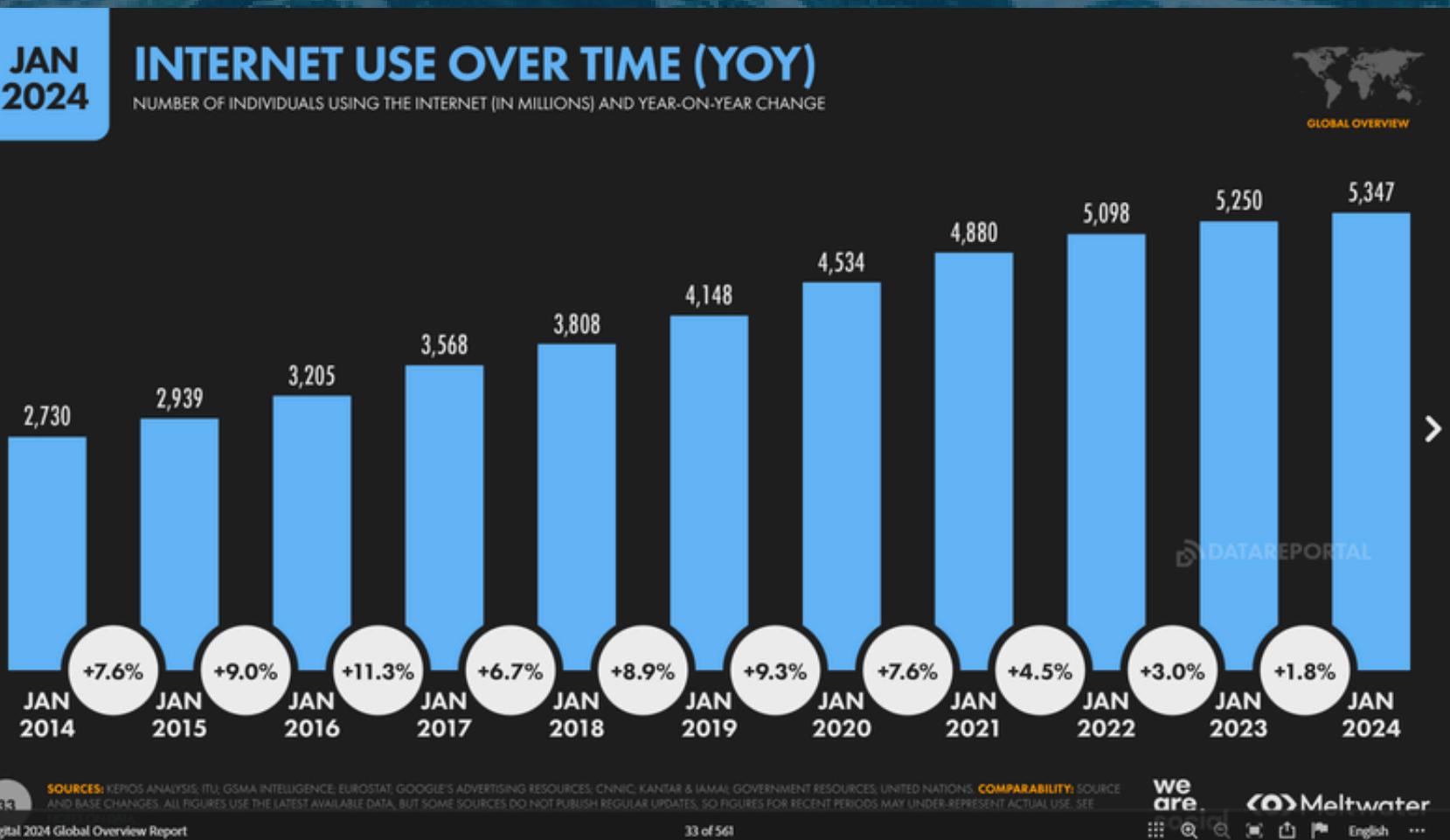
Overview of internet use in the world



Research data from
<https://datareportal.com>

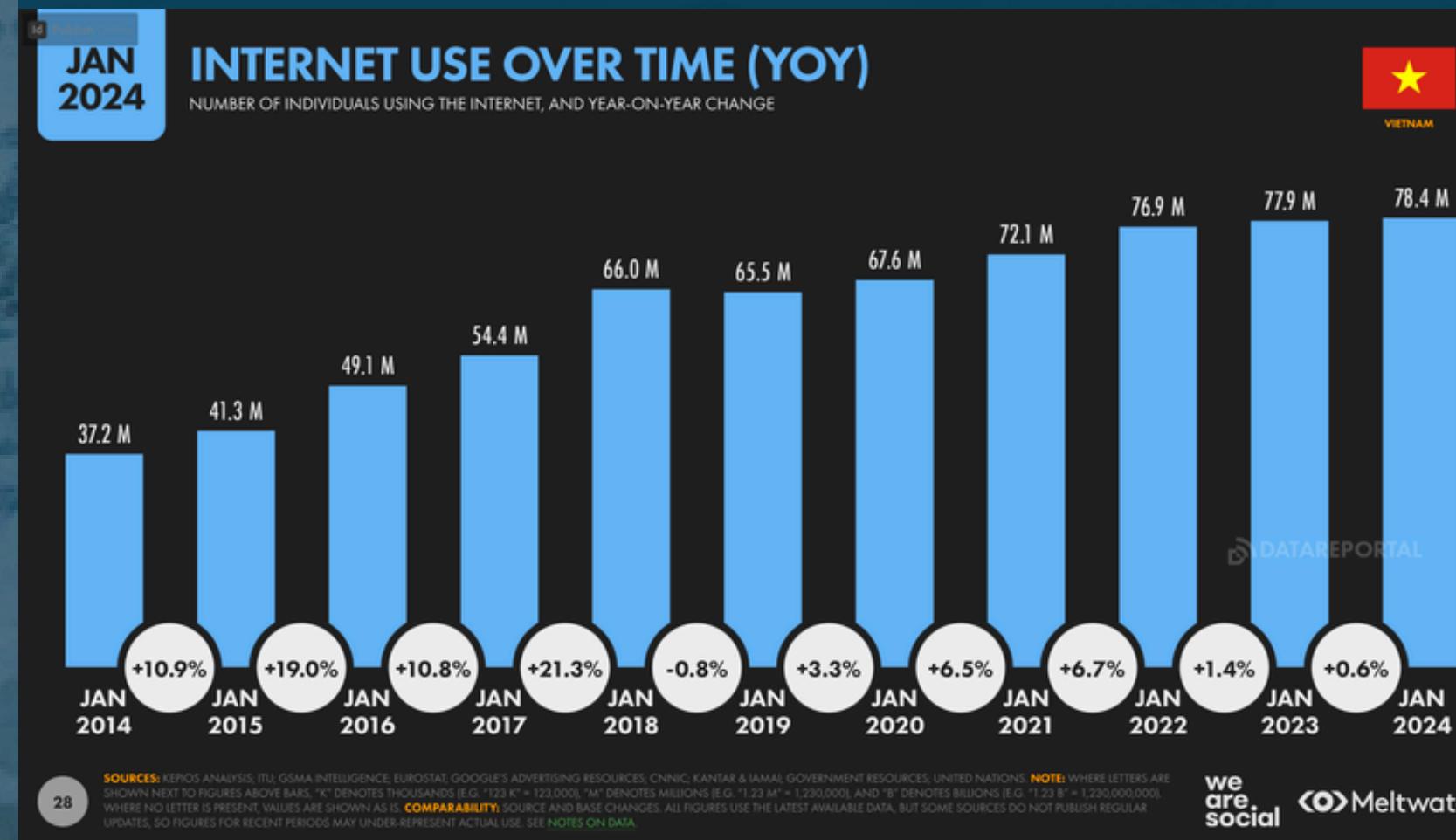
Overview of internet use in VietNam

Growth of internet usage



Digital 2024 Global Overview Report 33 of 561

The amount of time spent using the internet is tending to grow quarterly from April 2021 to April 2024 by 5%.



2

PROBLEM STATEMENT

Particularly Vietnam

VIETNAM	
# 6 MOST-ATTACKED COUNTRY	
OAS	61050
ODS	28508
MAV	3302
NAV	13592
IDS	14454
VUL	896
KAS	16215
BAD	0
RMW	493

CYBERMAP.KASPERSKY.COM

 **NCS**
National Cyber Security

Trang chủ Dịch vụ Tin tức Tuyển dụng Liên hệ  Q

13.900 vụ tấn công an ninh mạng vào các hệ thống tại Việt Nam năm 2023, tăng 9,5% so với năm 2022. Trong đó có tới 554 website của các cơ quan, tổ chức chính phủ và giáo dục có tên miền .gov.vn, .edu.vn bị xâm nhập, chèn mã quảng cáo cờ bạc, cá độ. Hơn 83.000 máy tính, máy chủ bị mã độc mã hoá dữ liệu tổng tiền tấn công, tăng 8,4% so với năm 2022. Tình trạng lộ lọt dữ liệu cá nhân ở mức báo động, kéo theo hàng loạt hình thức lừa đảo trực tuyến liên tục xảy ra... là những nội dung chính trong báo cáo tổng kết tình hình An ninh mạng Việt Nam năm 2023 do Công ty Công nghệ An ninh mạng Quốc Gia Việt Nam NCS thực hiện.

An toàn thông tin

Quý I/2024: tăng 18,7% nguy cơ tấn công mạng nhắm vào các hệ thống công nghệ thông tin trọng yếu

16:00 | 02/04/2024 | AN TOÀN THÔNG TIN

Trong quý I/2024, thông qua hệ thống giám sát an toàn thông tin, Trung tâm Công nghệ thông tin và Giám sát An ninh mạng (Ban Cơ yếu Chính phủ) đã phân tích phát hiện tổng số 32.265 nguy cơ tấn công mạng nhắm vào các mạng công nghệ thông tin trọng yếu, tăng 18,7% so với cùng kỳ năm 2023.

The background of the image is a high-angle aerial photograph of a landscape. A river or stream flows from the top right towards the bottom left, creating a winding, light-colored path through a dense forest of green and brown trees. The surrounding terrain is a mix of dark and light earth tones, suggesting a mix of forest and open land. A small white rectangular crop mark is visible in the top left corner, and a small white rectangular crop mark is visible in the bottom right corner.

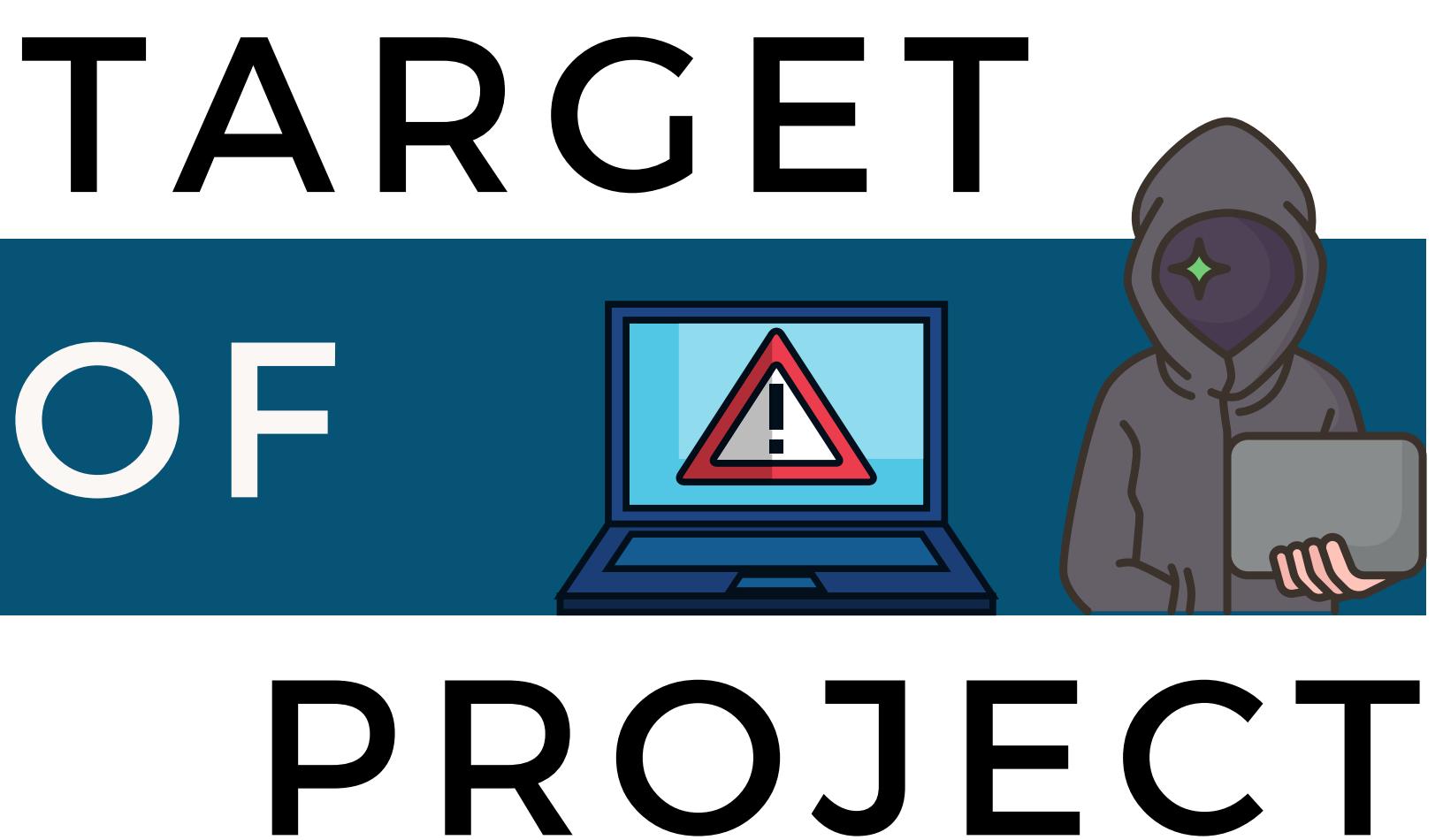
3

SOLUTION

OBJECTIVES OF THE PROJECT IMPLEMENTATION

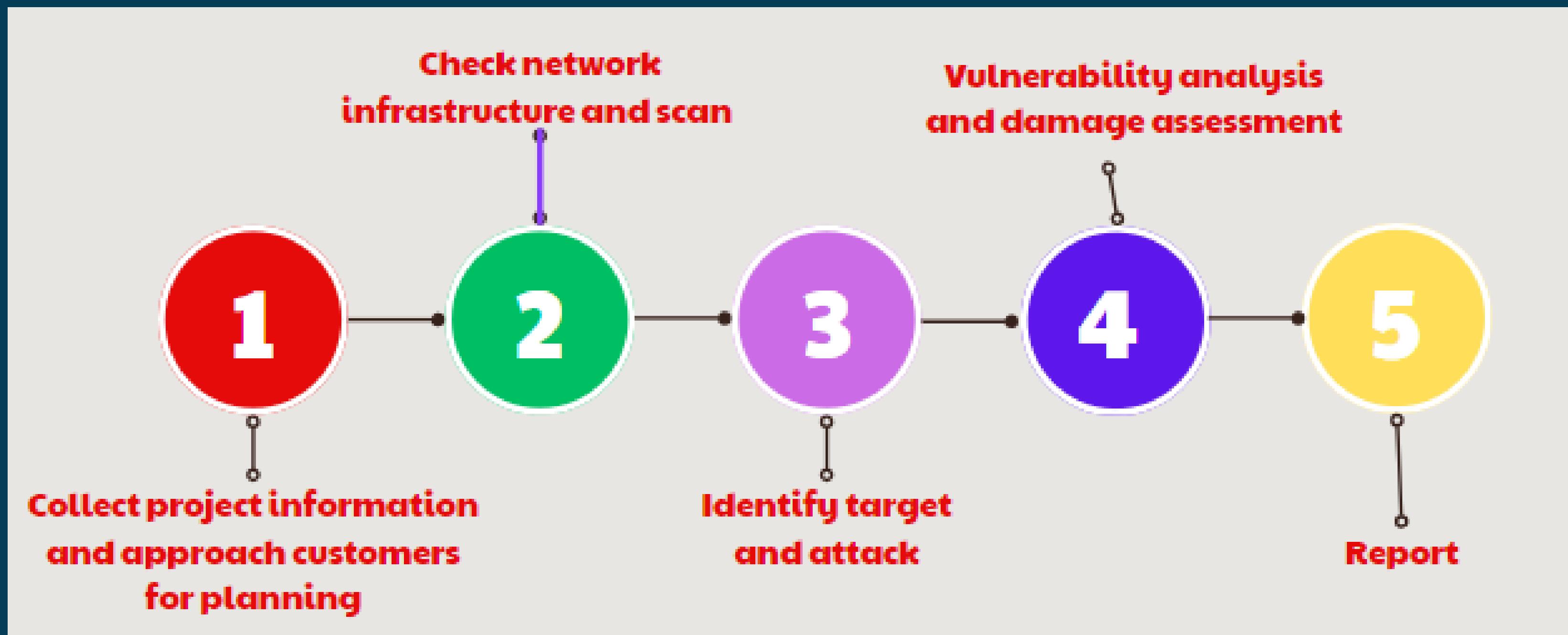


**TARGET
OF
PROJECT**



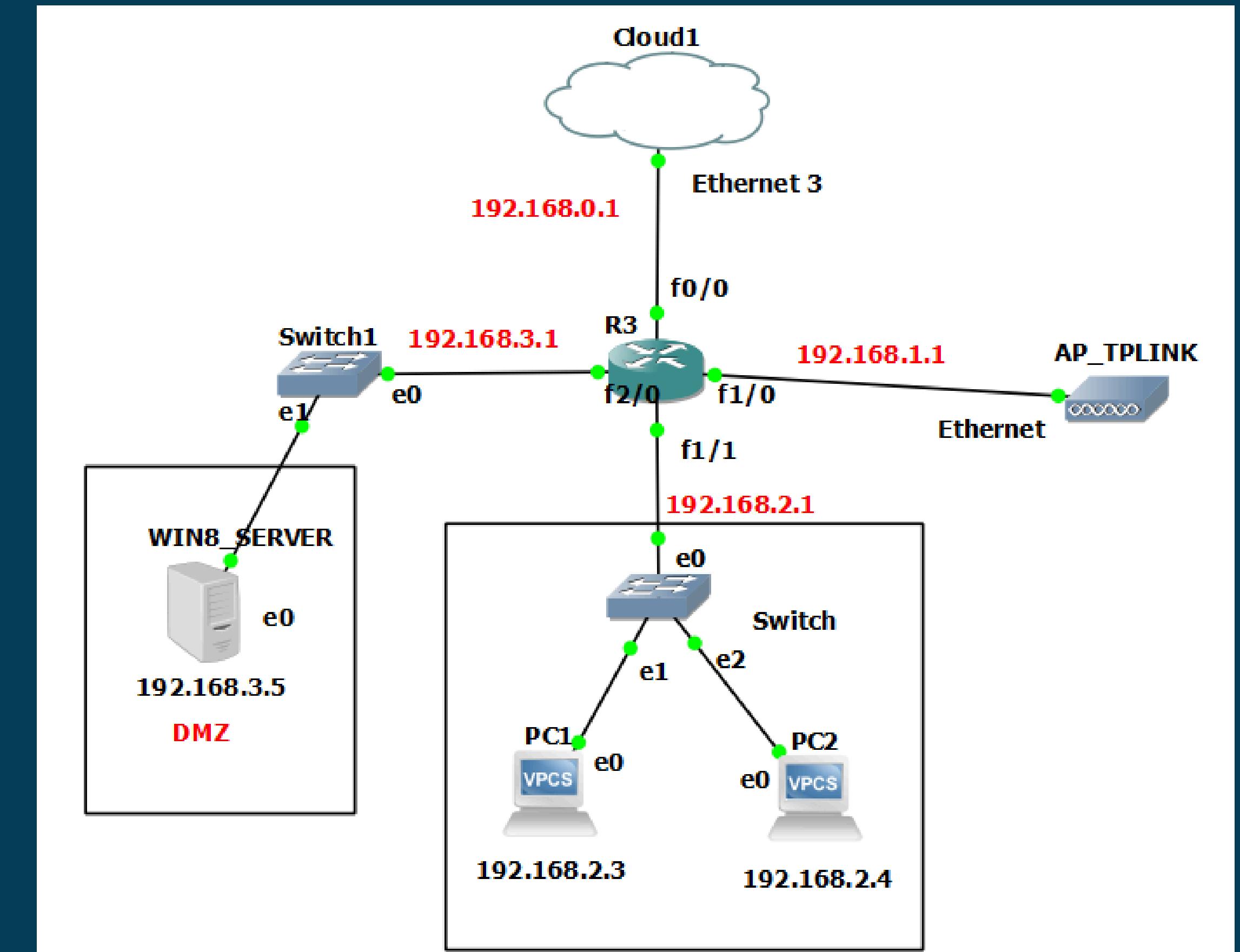
- CHECK THE NETWORK DEVICE'S SECURITY POLICY
- PERFORM TESTING AND RECOMMEND BLOCKING SECURITY HOLES ON DEVICE NETWORKS
- CHECK PORTS AND PERFORM PENETRATION TESTING

Project-based pentest process

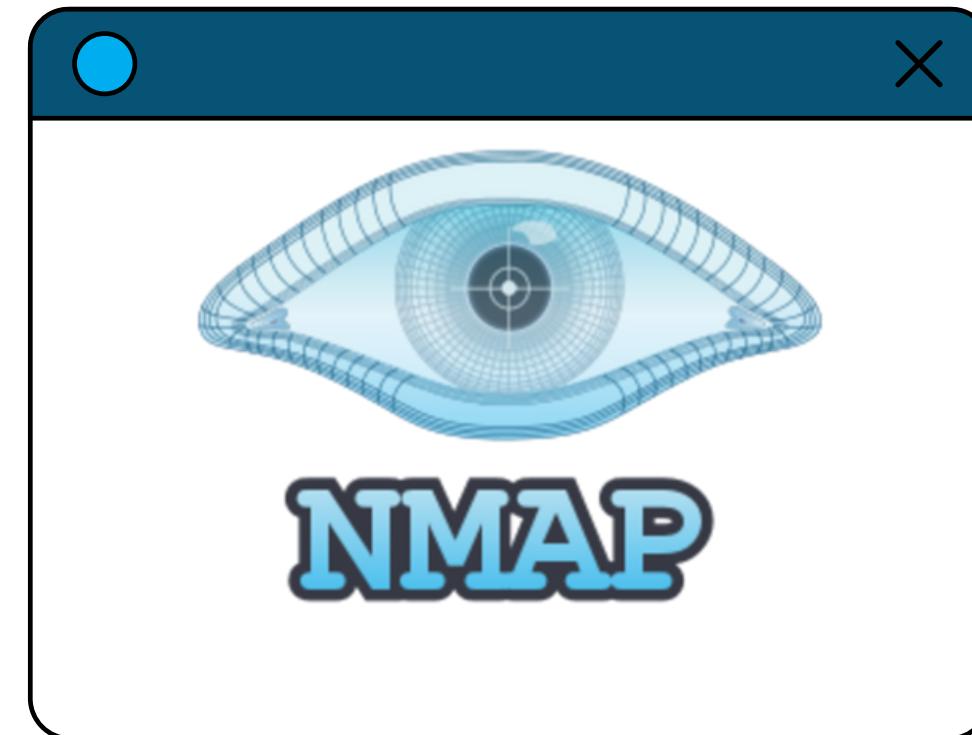
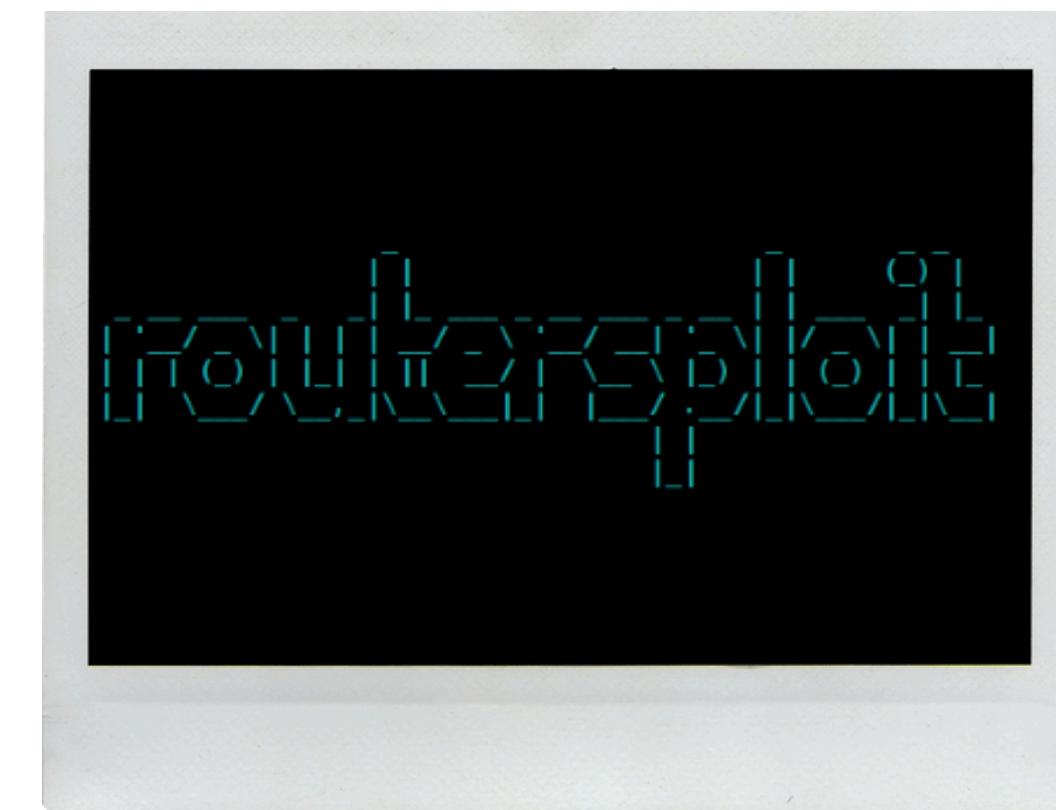


Network Diagram

THE SMALL BUSINESS
NETWORK MODEL IS BUILT
BASED ON GNS3
SIMULATION

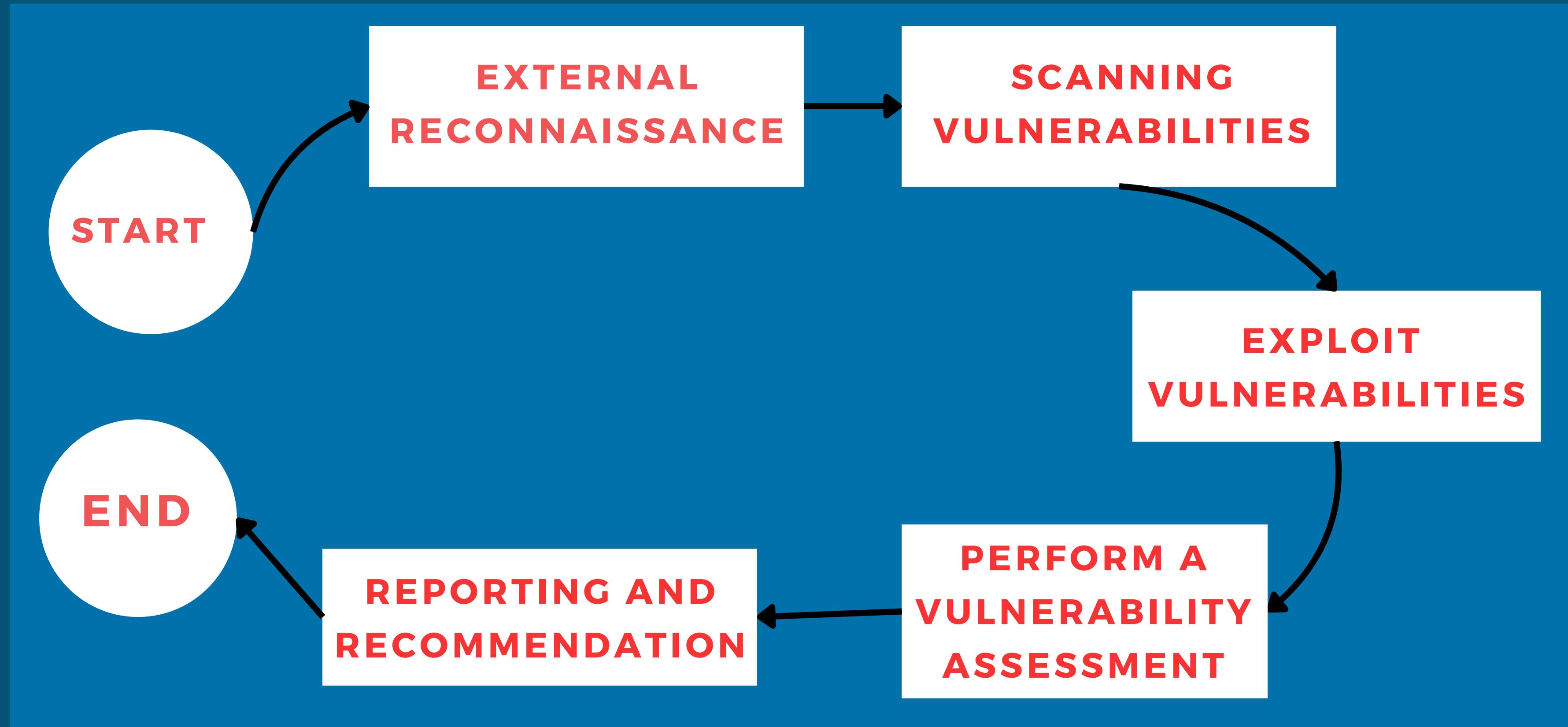


Development & Environment



HOW DOES PENNET TOOL WORK ?

Penetration testing process



MENU



4. DEMO

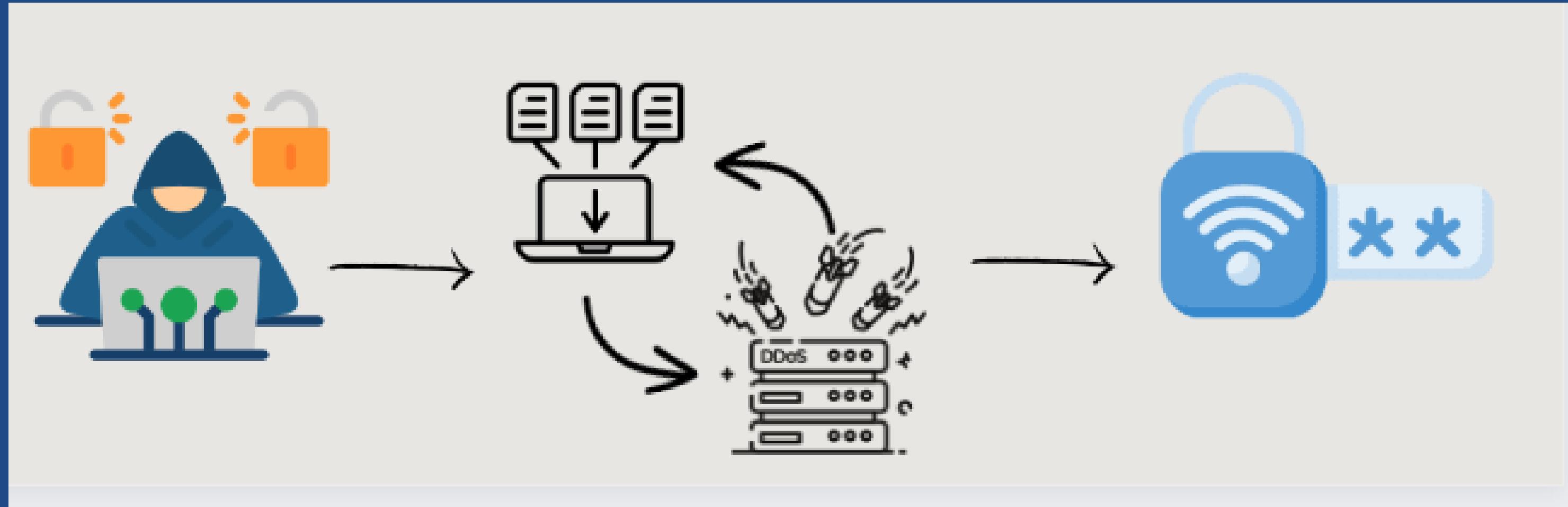
BRIEF INTRODUCTION BEFORE ENTERING THE SCRIPT



WE PERFORM PENETRATION TESTING BASED ON THE REGULATIONS AND RULES OF THE PROJECT'S PENTEST PROCESS, AND THIS PENETRATION TEST IS BASED ON THE PERMISSION OF HOME COMPANY TO PERFORM PENETRATION TESTING AGAIN. SHOULD BE CONVENIENT.

SCENARIO 1

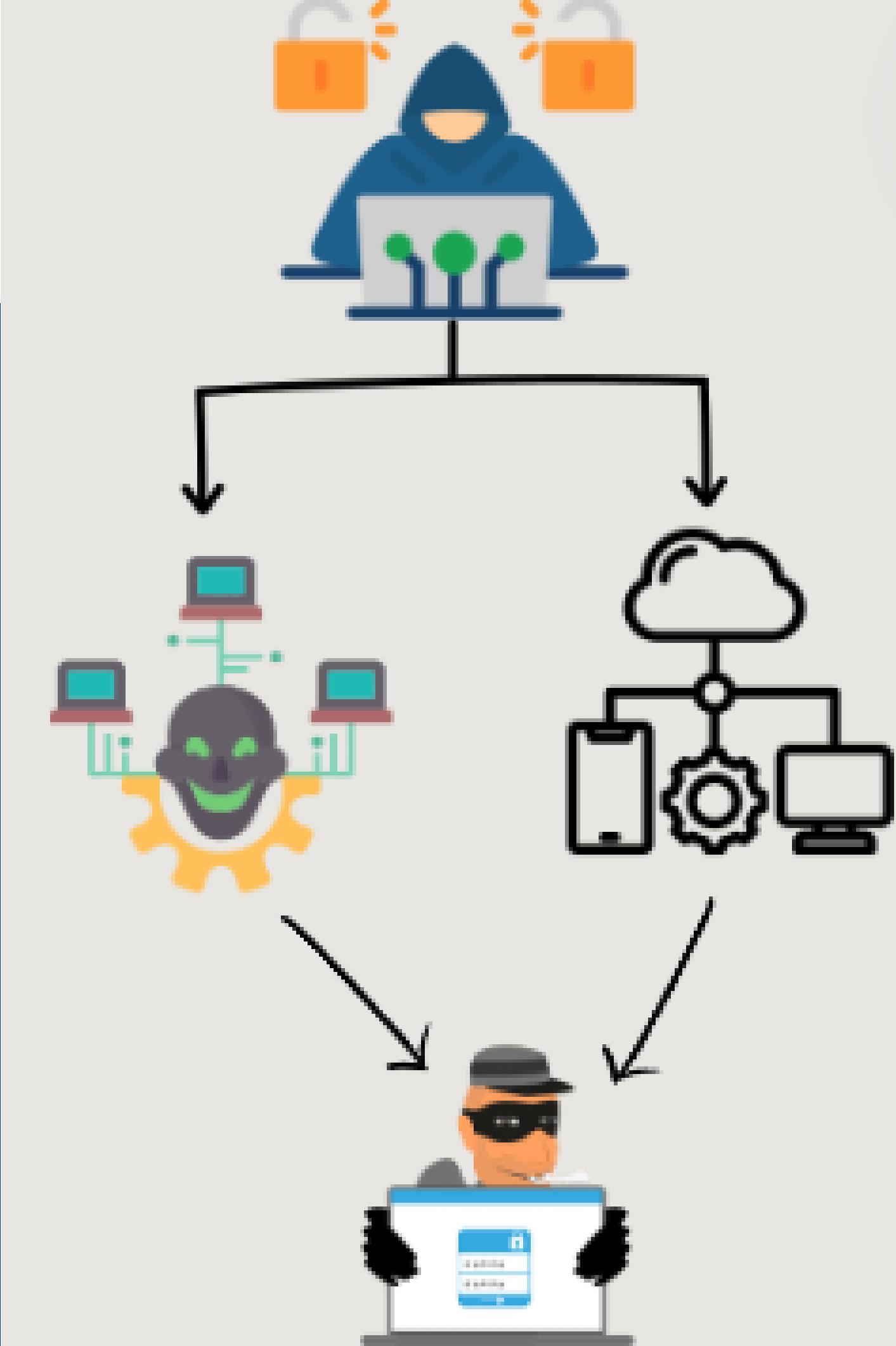
Pentest Wireless Network in company



DEMO

SCENARIO 2

Scan
Information
of devices
and pentest
devices
network



DEMO

5

Summary



Advantages and Disadvantages

ADVANTAGE

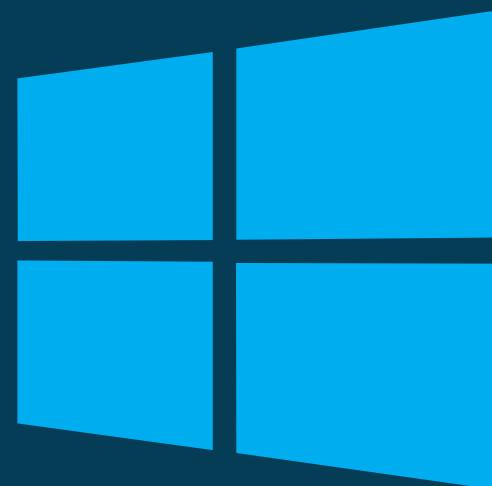
- **EYE-CATCHING INTERFACE, EASY TO USE, EASY TO INSTALL BY COMMAND OR OPENING THE INSTRUCTION PANEL**
- **THE EASY-TO-USE INTERFACE SUPPORTS METHODS FOR LOOKING UP NETWORK DEVICES AND PERFORMING PENTESTING.**

DISADVANTAGES

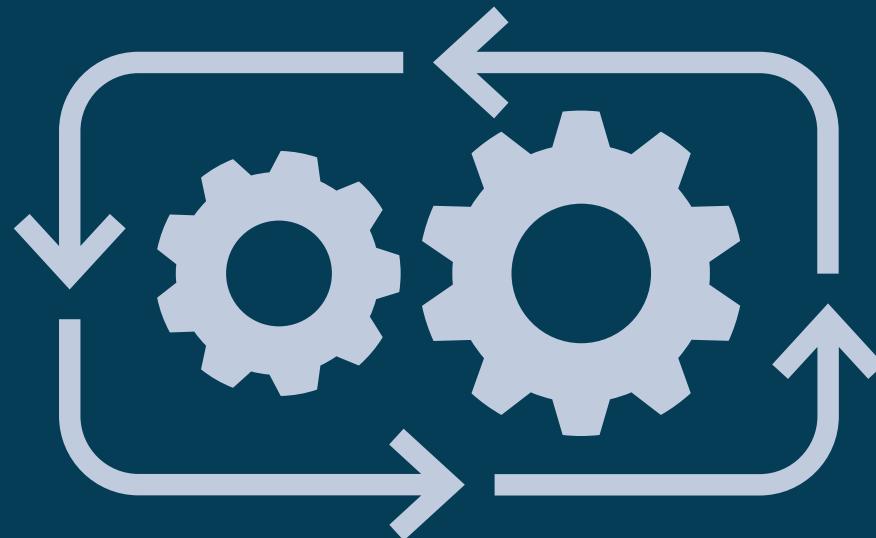
- **IT IS MANDATORY TO USE A WIFI RECEIVER WITH MONITORING**
- **CANNOT OPERATE ON WINDOWS, CAN ONLY RUN ON LINUX**
- **ETHICAL ISSUES CANNOT BE CONTROLLED**
- **FUNDAMENTAL UNDERSTANDING OF CYBER SECURITY IS REQUIRED.**

6. DEVELOPMENT STRATEGY

6



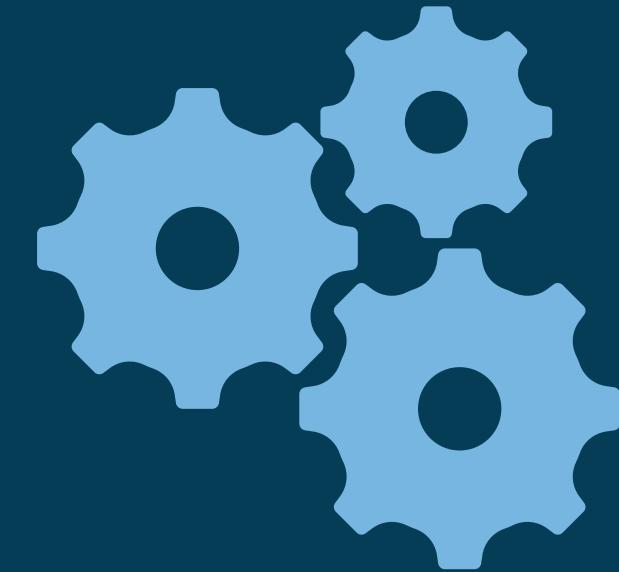
WINDOWS
COMPATIBILITY



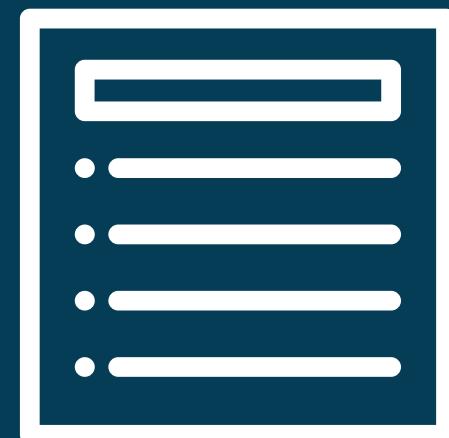
AUTOMATE FEATURES
IN THE TOOL



MORE FUNCTION



AUTOMATION FIX
SCRIPT



OPTIMIZED RULES

7



Question & Answer

THANKS FOR COMING

FANNET

TEAM

2023

Policy



Learning and Knowledge Update

Security Testing

Reporting and Evaluation

Ethics and Responsibility

Pentest demo policy



Agreement and Legal Compliance

Recording and Information

Security Scope Definition

